THE CANADIAN ILLUSTRATED MONTHLY

Vol. 6 Montreal, December, 1921 No. 10

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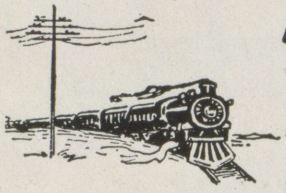

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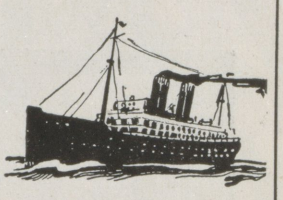

Vol. VI. MONTREAL, OCT.-NOV.-DEC., 1921 No. 8-9-10

Our Chat With You

WITH the issuance of our September issue, we had hoped that we would experience no further difficulty in issuing the magazine regularly, but we regret to state that our expectations of a speedy settlement of the strike in the printing trade of Montreal were not realized, and this, together with other conditions beyond our control, has forced us to again consolidate three numbers in a single issue. In this regard, however, the subscriber may not suffer, for we feel these days in much the same spirit as "Col." Bob Edwards, of Calgary, who give as his real reason for the intermittent publication of his famous journal, the "Eyeopener", his indisposition to publish a paper when he has nothing of value to say, merely because convention requires that it come out regularly.

Contents

In our next issue will be found quite a number of articles of national interest. One of these will describe the growth of Canada's wheat industry, and show the reader by text and illustration how it finds its way to the markets of the world; another will deal with the "Badlands" of Alberta, where are being uncovered the remains of the mammoth animals which used to roam the land in prehistoric times; while yet another will treat of the immigrant's arrival in Canada—following the newcomer up the St. Lawrence to Montreal.

Our doctrine: *To assist in the development of the great resources of the Dominion of Canada through the dissemination of conservative information relating thereto, and to give entertainment, refraining from discussion of religious, racial, or political questions.*

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British & Colonial Press Photograph

His Excellency, Baron Byng, of Vimy, Governor General of Canada.

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Vol. 6 Montreal, Oct.-Nov.-Dec. 1921 No. 8-9-10

Some Observations on the Annual Convention of The Society of Chemical Industry

By Franklin Williams

FEW EVENTS of recent years promise to have a more far-reaching or more salutary effect on the economic and industrial life of Canada than the recent annual meeting in Montreal of the Society of Chemical Industry, that august body of British scientists which has played so conspicuous a role in world advancement.

For in no other country, perhaps, does the industrial future appear to be so dependent on the application of chemistry to industry, and it is only through a universal recognition of this fact on the part of the scientific world that the latent resources of this Dominion will attract the attention they deserve.

Nature has endowed Canada with boundless resources, but their economic development will be largely predicated on the ability of the scientist to evolve the most economical electrolytic and electro-thermal processes, particularly in the case of most of the metallic ores, which, unfortunately, are of low grade or occur in conjunction with other bodies whose segregation is difficult.

The Society of Chemical Industry was founded in 1881 for the stated purpose of advancing and promoting Applied Chemistry and Chemical Engineering, and has at present a membership of approximately 5,600. Its offices are in London, but its members are to be found all over the world. Certainly, no scientific body on earth exercises a greater influence.

Unfortunately, the disturbed industrial conditions in Great Britain mitigated against a large attendance, but there were present nevertheless over two hundred members, many of them being prominent figures in the scientific world.

During their stay in Canada, the delegates were afforded an opportunity of visiting the great hydro-electric development at Shawinigan Falls, the various Niagara Falls undertakings, and other projects of interest to the industrial chemist, and there can be no doubt that the impressions received by them will redound to the material development of the Dominion.

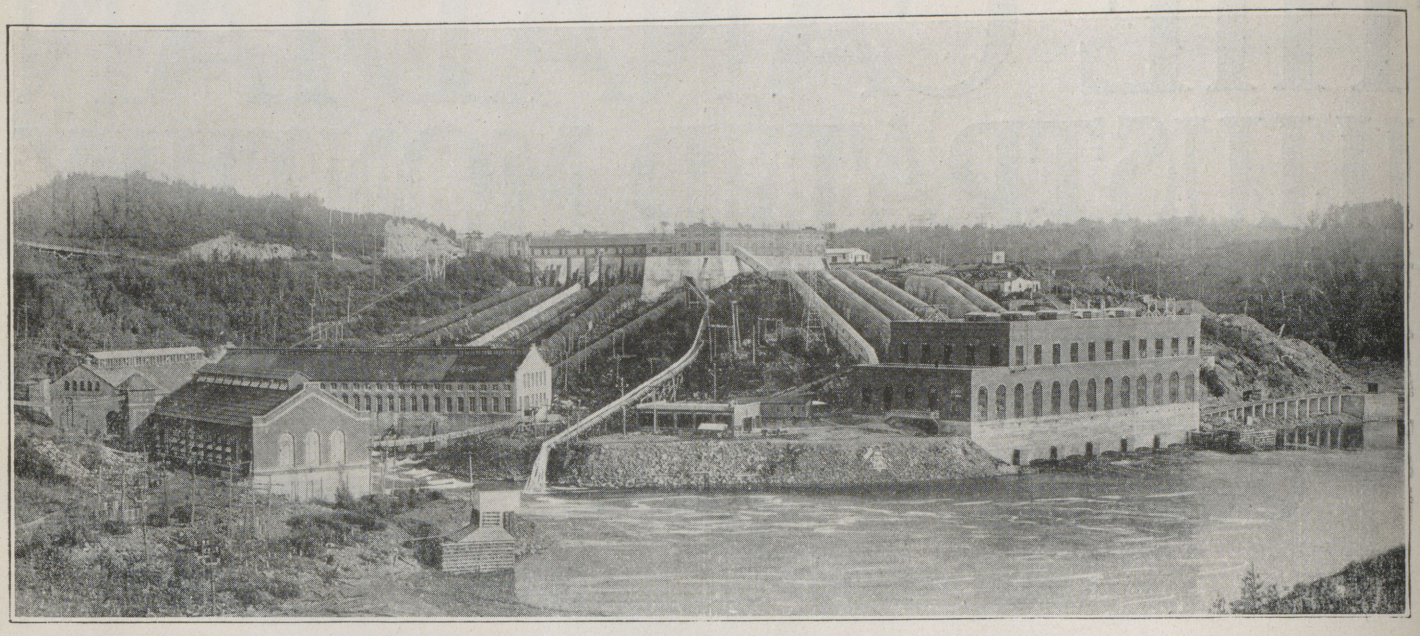
A meeting of this character necessarily had many noteworthy utterances, the addresses, papers, and discussions covering a wide range of subjects.

Sir William Pope's address was such an important deliverance that we publish it in full.

"This is the first occasion on which the annual meeting of the Society of Chemical Industry has been held in the Dominion of Canada," said Sir William. "There is something peculiarly appropriate just at the present time in the inauguration of what I trust will prove an endless series of such meetings outside the British Isles. Our nation

British & Colonial Press Photograph

Delegates to the Annual Convention of the Society of Chemical Industry, foregathered at McGill University from all parts of Great Britain, Canada and the United States

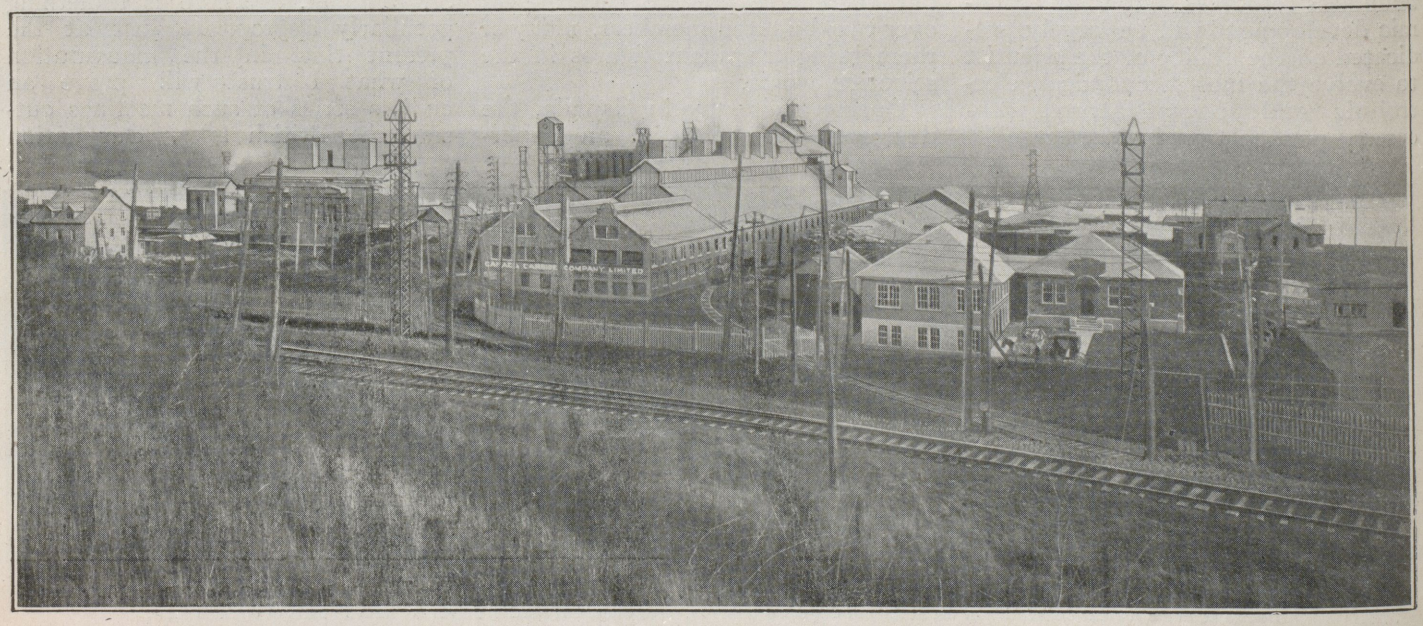


A general view of the Shawinigan Water & Power Company's comprehensive hydro-electric development, Shawinigan Falls, Que.

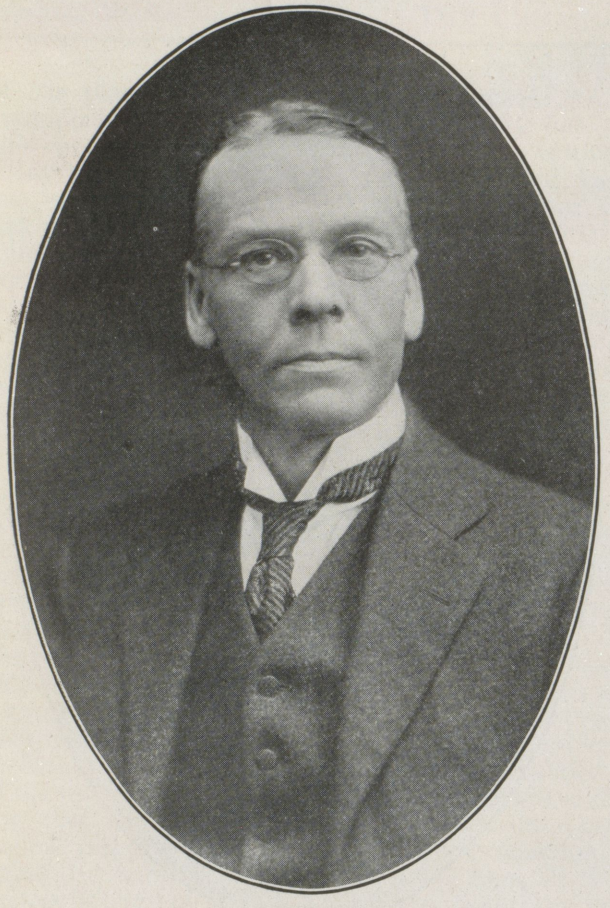
has but recently emerged victorious from the greatest war in the history of mankind; we feel that one of the most wonderful circumstances of that struggle—the one, perhaps, which will appeal more strongly than any other to the imagination of historians in centuries to come—is the unanimity with which all the multitudinous races included within the British Empire responded to His Majesty's call and poured out blood and treasure unstintingly in the common cause. The war proved that our Empire is no loosely-connected aggregate of countries but represents a single vast community of men and women; the smaller interests of districts or of people are indeed not identical, but we all share the one main interest, namely, that of the welfare and the progress of the Empire to which we belong.

"The Society of Chemical Industry stands out from amongst the majority of scientific and technical associations in being an Imperial Society; its activities are not limited to the small confines of the mother islands, but we have vigorous and prosperous Sections in many parts of the Empire. It is even more than an imperial Society in that it has a powerful Section in the United States; we can justly claim to represent not only the British Empire, but also the whole Anglo-Saxon race in matters of chemical technology, for we have large bodies of members wherever the English tongue is spoken.

"The wide field covered by our Society makes it all-important that its many Sections should be managed energetically and should represent each an active body of members intent on the advancement of our subject; this is especially true just now when the scientific, industrial and commercial activities of the whole world are undergoing reconstruction.



The plant of the Canada Carbide Company, Shawinigan Falls, Que.



Sir William J. Pope, K.B.E., F.R.S., noted British scientist, who presided at the meeting

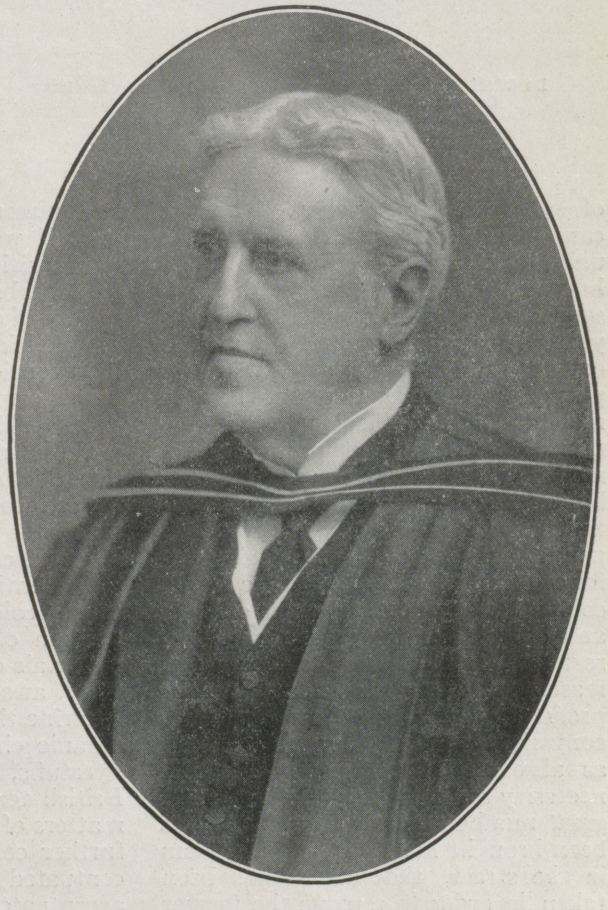
"It is unnecessary for me to enlarge on this theme before an audience composed mainly of our Canadian members; you have already acted upon it, and the Canadian organization now consists of five Sections of the Society of Chemical Industry. The advantages of the new system of working are obvious, and we look forward with confidence to seeing their effect in increased numbers of papers on original work in our Transactions. In connection with your reorganization attention may perhaps be directed to one point. Great efforts are now being made by our Council and Publications Committee so to alter the character of our Review as to make it more readable and of more general interest; most of us are anxious to be kept fully informed upon the doings of our members, and it is particularly difficult to collect information concerning those who are far from Headquarters. If in organizing your Sections you can arrange to provide the Editors with prompt information on matters of interest you will do the Society a great service. Two years ago the financial position of the Society was causing the Council grave apprehension; today, I am happy to say, our greatest anxieties concerning finance have vanished, and you will have seen from the balance-sheet that whilst economy is still necessary, the need for parsimonious conduct of the Journal no longer exists. In this connection mention should be made of the munificent bequest to the Society by the late Dr. Rudolph Messel, one of our former Presidents, and one of the most devoted promoters of the Society's objects. The capital value of the bequest is in the neighborhood of £20,000, and consideration is being given to the question of how best to apply the income to advantage; meanwhile, it has been decided to perpetuate the memory of our late friend by the establishment of a medal and a memorial lecture to bear his name.

"Seven years ago the situation and the outlook in all branches of scientific industry were very different from those which now confront us.

"In 1914, certain of the chemical industries of Great Britain were expanding slowly but steadily, whilst others were slowly but just as surely shrinking before foreign competition; in some of the chemical industries Great Britain was supreme, but in others we were losing ground. At that date, chemical industry was expanding rapidly in this great Dominion, and all the virility of a growing population was being devoted to the utilization of the vast natural resources of a previously but partly developed country.

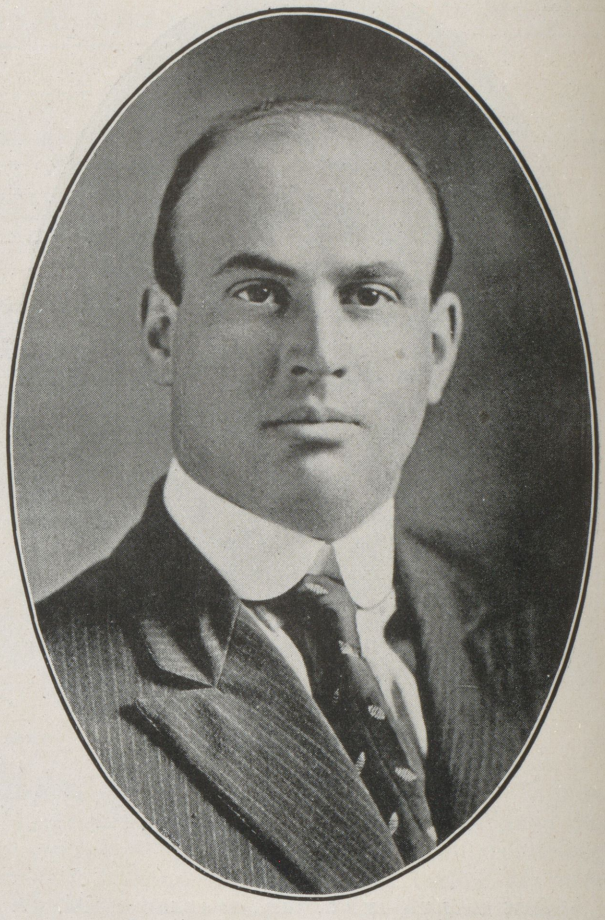
"The interval has seen the commencement and the conclusion of a great conflict, a war which has reduced to mediocrity several of the dominant European powers, and has left nearly every nation struggling under an accumulation of debt. Throughout the war the Dominion, like every component of the British Empire, devoted itself actively to the production of food-stuffs and of munitions of war; although the great majority of the valid manhood of all countries entered active service, we were successful in establishing on a grand scale the manufacture of the many and varied chemical products required for military purposes. One of the vast problems which the war has bequeathed to us is that of determining how the faculty which we exhibited in the manufacture of chemical products during a period of emergency is to be diverted and utilized for peace purposes, and for meeting the normal requirements of the world's commerce.

"The problem is an entirely novel one in that it is accompanied by certain factors which were previously absent or which were at any rate



Dr. R. F. Ruttan, Director of Chemistry at McGill University and noted Scientist, who was elected President of the Society of Chemical Industry in succession to Sir William Pope

Dr. W. H. Nichols, President of the Allied Dye and Chemical Corporation, New York City, and of the Nichols Chemical Company, Limited, of Canada, one of the outstanding American delegates



H. W. Matheson, M.Sc., F.C.I.C., Vice-President of the Canadian Electro Products Company, who, as Chairman of the Montreal Section, did yeoman work in making the meeting a success

of subsidiary importance. Thus, it cannot be doubted that the bonds uniting all parts of the British Empire have become far stronger in consequence of the events of recent years; further, we realize to a greater extent than ever before that for purposes of production our Empire must be, if not absolutely self-contained, at least in possession of modes which could be rapidly mobilized so as to render us self-contained. Before the war, we were dependent on Germany for bromine and for coal-tar colors and upon the Dutch colonies for quinine; the price of these and other essential products quickly rose to famine prices although no reason exists why they should not be produced within the Empire just as conveniently and just as cheaply as abroad. So completely has the necessity for a British production of great numbers of chemical products been brought home, even to the man in the street, that action has been taken in order to remove the former disabilities; the extent to which success has attended these efforts is open to comment, but it is at least certain that if we ever again find ourselves in a position of embarrassment owing to the absence of British sources of supply of essential chemical products, our political leaders will have to exhibit considerable agility in shifting the blame on to other shoulders than their own. All the bromine we require could be obtained as a result of the introduction of rational chemical methods into the production of salt from sea-water in India; all the quinine required could be furnished cheaply by the scientific cultivation of cinchona in our colonies: and the British production of complex organic explosive materials during the war has entirely swept away the ancient propagandist doctrine that the manufacture of fine organic chemicals, including coal-tar dyestuffs, is incompatible with the British temperament. All these are matters of great importance; but one further consideration has become accentuated during recent years, and accentuated by the fact that the major portions of the tropical regions of the world are administered by the English-speaking and the Latin nations. In the past we have, I venture to think, endeavored to build up our chemical industries far too much on the lines which proved so fruitful in Germany. I am speaking now not of the heavy chemical industry, in which we have always been to the fore, but of those industries which involve the production or the use of a great variety of more or less complex organic compounds. The organic chemist has long had before him, as one great object of his work, the artificial production of the myriads of organic compounds which we find amongst animal and vegetable products; he may be justly proud of his achievements in this direction, and the success attained justifies our belief that we shall within quite a short time be able to prepare in the laboratory any compound substance formed by the animal or plant. Immediately some important natural product of commercial value is produced in the laboratory, the German technologist has sought to convert the laboratory method into a works process capable of competing with that

of the plant or animal. From the standpoint of the German economist this course of action was sound; Germany had but few colonies and those few, since the German Government did not possess the art of colonial administration, were a source of considerable expense to the fatherland. We have relieved Germany of this expense and have probably thereby given a stimulus to the German instinct for making in a chemical works those chemical products given to us by tropical nature.

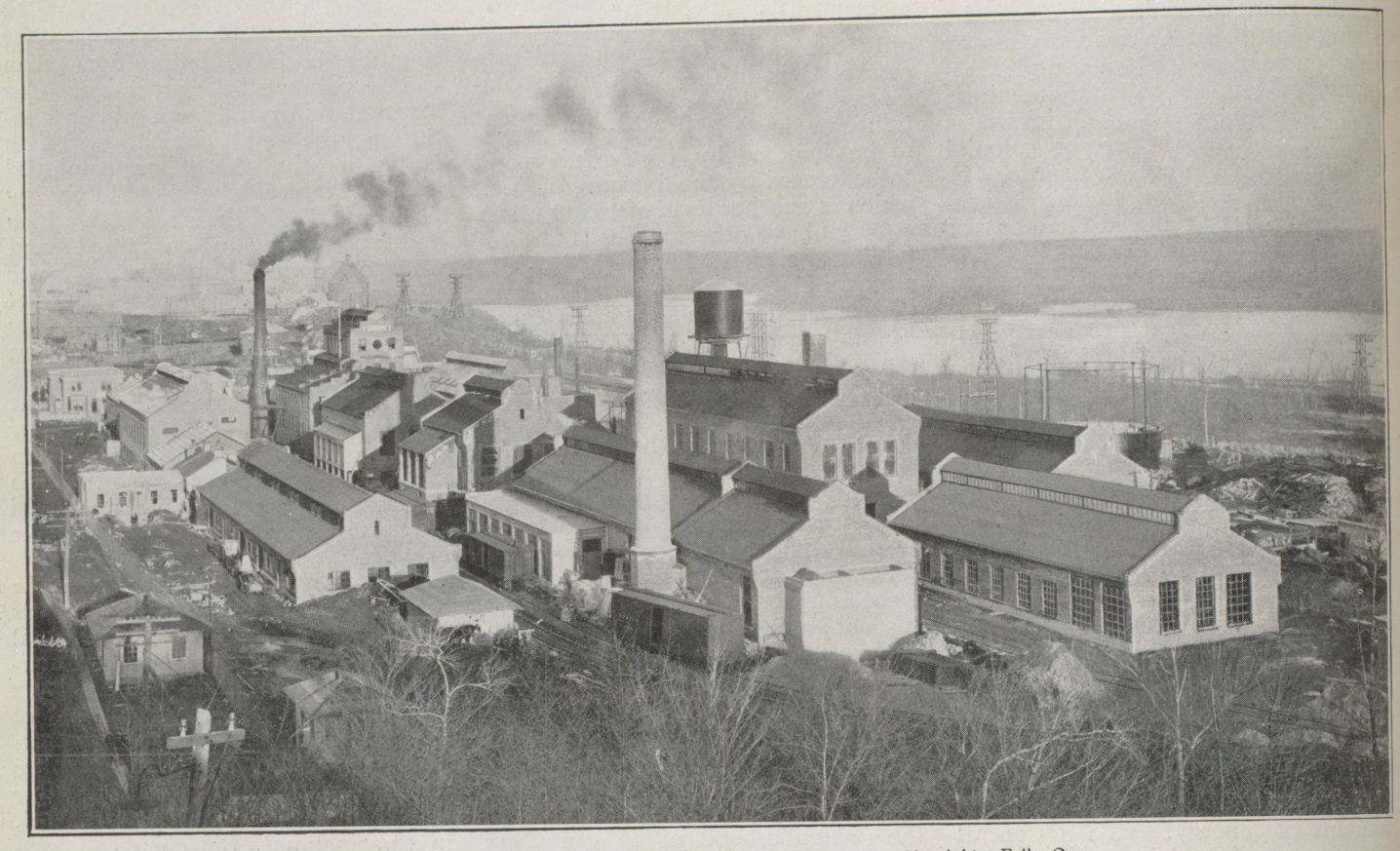
"My point in suggesting that we have erred in adopting German views concerning the methods and aims of chemical technology, without reflecting that economic conditions in Central Europe are entirely different from those which prevail in the British Empire regarded as a whole, perhaps calls for some explanation; the necessary elucidation may be furnished by considering the ultimate object of technical chemical effort. The object of all technology consists in converting raw materials of inorganic or organic origin into products of greater value by expending upon them a certain amount of labor and a certain amount of energy. To a Central European nation labor means high wages to its population and energy means mainly coal or water-power; only one type of technological process is thus in the main to be considered, and this is one in which certain raw materials enter the works to be handled by costly labor and to be treated by the burning of fuel, which is another form of costly labor.

"We have other methods for obtaining similar results, methods which are available in many cases but have been worked out in only a few cases. Let us consider one specific example. During the war, Germany was successful in producing India rubber in her chemical works; as converting into a works process the method for the polymerization of a hydrocarbon of low molecular weight to give rubber, discovered as a laboratory operation by Tilden and Bouchardat some generations ago, this was a fine achievement, but there is no doubt that the costs of production were high. When we consider, however, that many of the rubber plantations are in British territory, that curtailment of output has been necessary to keep last year's production down to about 350,000 tons, all the world could absorb, and that the cost of production was in the neighborhood of 25 cents per pound, it will be realized that the British Empire has a technical method for producing rubber which is a far sounder business proposition than the German synthetic processes. Our raw materials result from rubber plantations, the establishment of which is not costly, the labor employed is cheap tropical labor and the energy utilized is that of the sun's heat, which does not require to be mined and transported on railway trucks. Since the world's annual consumption of rubber will certainly increase rapidly and since our rubber plantations can already produce more than the world's present requirements, it is clear that we are in possession of a process for making India rubber, using cheap labor and gratuitous energy, which if conducted on scientific lines will always defy competition from the chemical works of Central Europe.

"It would not be fair to deprecate the installation of synthetic methods for manufacturing complex natural products. Nature in general furnishes us with but one very complex member of any particular class of organic compounds. Thus, the numerous plants which produce indigo yield but minute proportions of other compounds of a similar type, and, in this instance, the chemical technologist has succeeded in manufacturing a whole range of valuable dye-

Photograph, courtesy Canadian Pacific Railway

An unusually good view of the Niagara Cataract, whose vast power has so materially contributed to the development of modern chemistry



General view of the plant of the Canadian Electro Products Company, Shawinigan Falls, Que.

stuffs of the indigo family which do not occur among vegetable products; his efforts have to this extent been amply justified, but it is difficult to believe that synthetic indigo itself would ever have been able to compete in the market if a similar amount of scientific skill and intelligence had been devoted to the improvement of the cultivation and utilization of the indigo plant. The work which is now being done by Armstrong, Davis and others on natural indigo may well result in the re-establishment of the Indian indigo plantations which many decades ago brought such a substantial contribution to the financial prosperity of our Empire.

"Other similar examples are available. During the Russo-Japanese war large quantities of camphor were manufactured in the German chemical works, but this production was killed as soon as the Japanese camphor laurel started to produce after the war.

"The wider recognition of the fact that chemical technology largely neglects what perhaps should be regarded as its most important mode of operation may, at no distant time, be forced upon us as an entirely economic necessity. The densely populated temperate regions of our globe will demand for their consumption and dissipation ever increasing quantities of energy, and the sources of energy in those regions—coal, oil, water-power, etc.—are diminishing rapidly. We shall be forced to set up a scheme for transporting to our northern countries the energy so lavishly sent from the sun to tropical lands. It is by no means impossible that the day may soon come when vegetable oils, produced in the tropics, will be brought northwards for use as an economical form of fuel. With these considerations in view, it seems time for our chemical technologists to devote more attention than they have heretofore to practicable methods for utilizing the surplus energy of the tropics in supplementing the waning supplies of energy available in colder climates.

"Another aspect of this question forces itself upon us. The last century has witnessed two great phases in the development of practical chemical work. Roughly speaking, it may be said that the progress of chemistry up to about forty years ago, great though that progress was, resulted from the application of rather fierce methods; a time came, however, when it was recognized that much was to be learnt, especially in organic chemistry, by the study of delicately balanced reactions in which the practical methods applied were devoid of violence and in which conditions, such as concentrations, temperatures, and the like, were carefully controlled. The organic chemistry of to-day does not distil fragile organic compounds through red-hot tubes; it proceeds by more subtle methods which, nevertheless, have greatly developed the broad knowledge of the science bequeathed to us by our predecessors. In its adoption of milder modes of operating and its consequent application of energy at a low potential, organic chemistry is approximating in its laboratory methods to those which occur in plants and animals; but the chemical changes which occur during the course of vegetable or animal life are still far more complex than those brought about in the laboratory. This complexity doubtless arises from the utilization of low potential energy in the living organism; temperature changes of more than one degree Centigrade are not permissible in the healthy animal organism. The great majority of the chemical reactions which take place in living matter occur catalytically in colloidal media.

"While the first great epoch in the history of organic chemistry was marked by the application of violent experimental methods, the

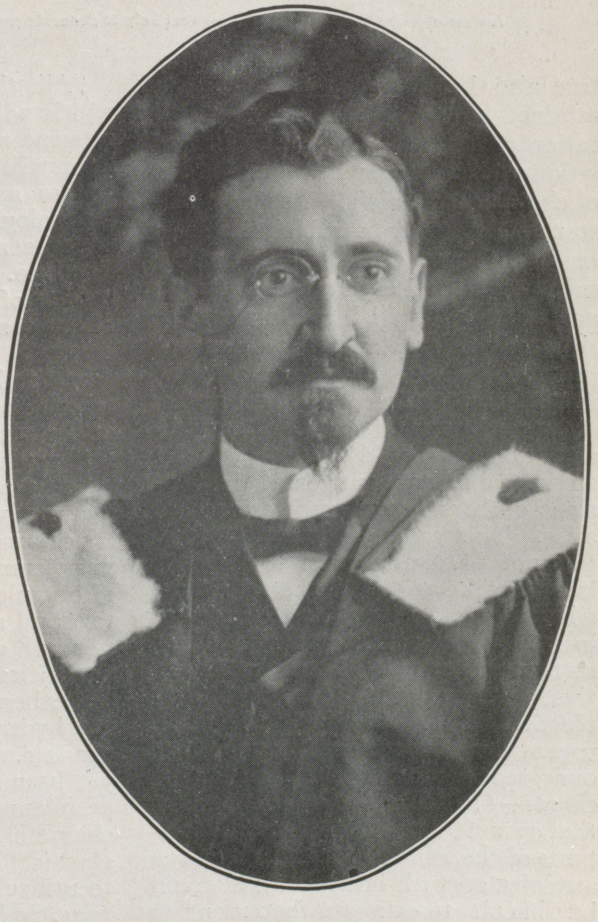
developed milder modes of procedure; the third epoch, which is in the course of inauguration, will bring us into direct competition with the experimental chemical methods practised by living matter. It is impossible to doubt that a vast expansion of organic chemistry will be witnessed by many of us, an expansion which will result from an imitation of the gently effected chemical operations carried out in the animal and vegetable creation.

"Whilst this prophecy is not a mere surmise as to the nature of the next step forward to be taken by the science of organic chemistry, but is rather of the nature of a logical deduction from past events, it is perhaps surprising that more use has not been made of the chemical methods of living matter for technological purposes. On a technical scale the activities of living organisms have been harnessed in the production of alcohol, acetone, glycerol and acetic and citric acids from sugars, and the pathologist has been wonderfully successful in directing similar activities towards the rectification of abnormal vital processes; much has also been done in the bacterial treatment of sewage and the separation thereby of valuable plant foodstuffs from the very dilute solution in which these occur in effluents. When the immense variety of chemical operations performed by living material are considered, it must be concluded that the manufacturing processes just mentioned, important though they are, are but a minute fraction of those which could be economically applied to the production of useful organic compounds if the scientific study of the subject had been sufficiently developed.

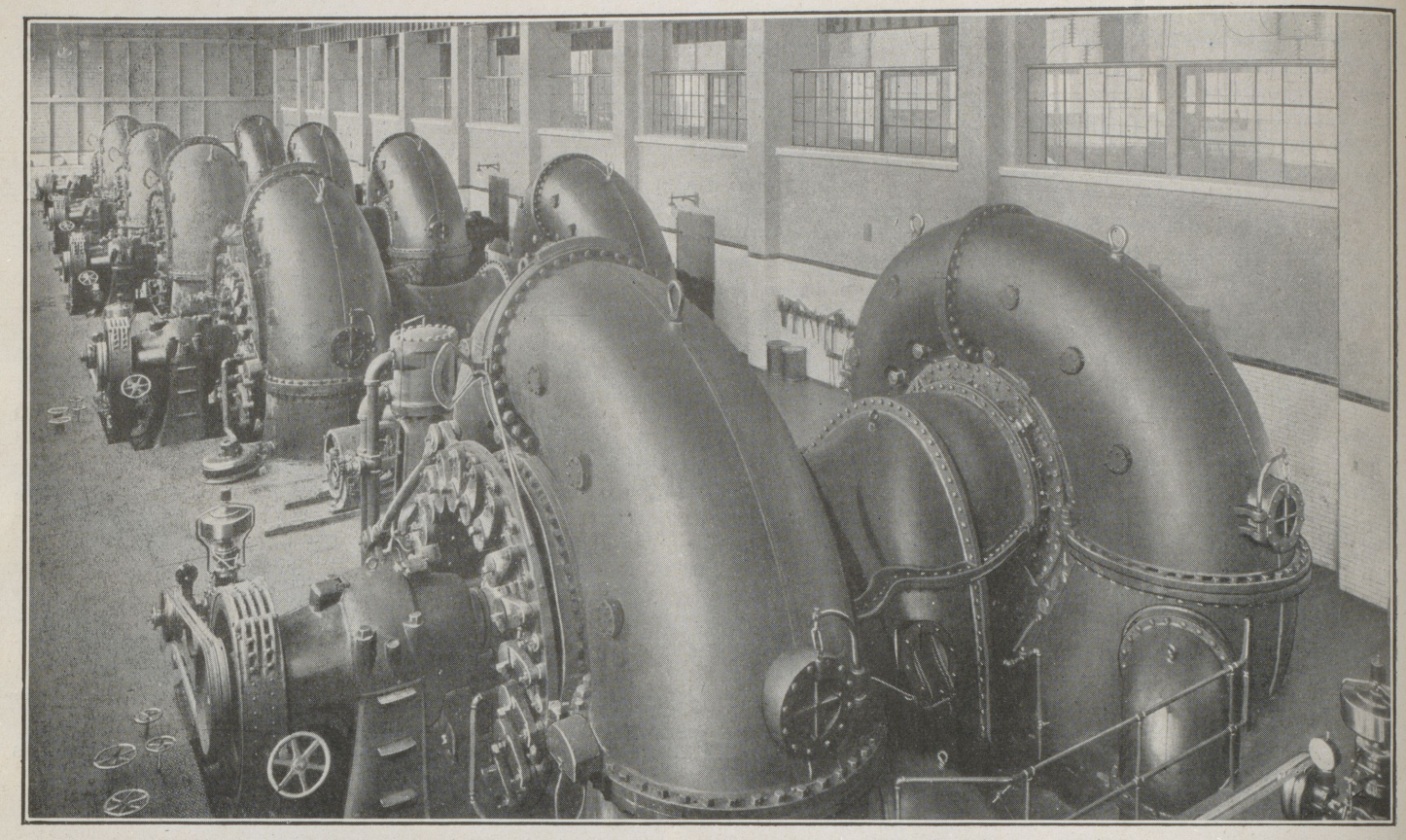
"This subject would seem to be of particular importance to the development of chemical technology in the British Empire, which includes within its domain every range of climate and every species of animal and vegetable life. If we were able to establish an organization for the study of methods and processes for the manufacture by biochemical agencies of useful chemical products, we should reap a rich harvest.

"Apart from questions of the desirability of plant culture for the purpose of increasing the yield of valuable products and of the study of biochemical methods for manufacturing necessary chemical substances, both of which are of vital interest to us, although perhaps of more purely academic interest to other nations, another problem presents itself to us. A wide expanse of Empire brings with it exposure to a great variety of different types of parasitic life; these may be merely vegetable pests, like the prickly pear which is giving so much trouble in North Australia, or they may be such as cause diseases which render European life precarious in certain regions. The chemical technologist of tomorrow will need protection in the shape of methods for combating these ills, and up to the present far too little progress has been made in this direction. It is true that the prickly pear is destroyed by spraying with arsenic chloride; but this is a mass treatment which is expensive, dangerous, and only locally effective. It is

Milton L. Hersey, one of the founders of the Montreal Section, and a chemist of international distinction



George H. Baril, M.D., member of the council of the Society of Chemical Industry, and Vice-President of the Canadian Institute of Chemistry, who represented Canada at the International Chemical Congress held in Brussels, Belgium, last June.



A view of some of the great turbines that help to generate power at the plant of the Shawinigan Water & Power Company, Shawinigan Falls, Quebec.

true also that great success has been attained in the prevention or eradication of tropical diseases by inoculation with serum or by the injection of chemical materials. But notwithstanding the progress which has been made in these directions the whole subject involved is but in its infancy; and although British institutions for the study of tropical diseases and of parasitic plants have contributed much, in comparison with their means, it cannot be denied that Germany has also done splendid service by the study in its state-supported institutions of the very vital problems which arise. This source of scientific help will not be available in the future; it cannot be expected that a nation which only retains an academic interest in ills which no longer affect its own economy will preserve an active interest in fighting these tropical plagues. That the question is an urgent one—one which should interest our great manufacturers and merchants—finds illustration in the fact that over 90 per cent. of the inhabitants of the Fiji Islands and of Malaya are infected with hookworm; it would be difficult to estimate the extent to which production is limited by this plague in regions which are among the most fertile in the world.

"All the foregoing are questions which will necessarily become urgent at some no distant date, and most of them will call for the breaking of more or less new ground by the chemical technologist. Of others which seem to have been long ripe for study I mention one. Although we are in possession of very complete knowledge of the constituents of coal-tar, a very common raw material, and have developed an elaborately detailed scheme for utilizing those constituents in the manufacture of valuable chemical products, no real effort has yet been made to deal in a similar manner with crude petroleums. It is common knowledge that crude petroleums are very complex mixtures of organic substances, just as is coal-tar, and also that a great variety of mineral oils are available in large quantities, each quite different from the others in the chemical nature of the hydro-carbons of which it mainly consists. No systematic attempt has yet been made to classify the various petroleums according to their chemical character, to separate from them pure chemical compounds and to endeavor to utilize these in the chemical industries. So far as petroleum is concerned our present attitude resembles that which we maintained a century ago towards coal-tar; it is regarded as only fit to burn. A vast field of chemical activity lies before us in the scientific study of petroleums and in the device of processes for utilizing the valuable individual compounds which they certainly contain in the expansion of chemical industries.

"I have ventured to lay before you to-day a few thoughts concerning the manner in which the changed conditions of the world are likely to influence the future trend of development of chemical technology. Since no one can doubt that conditions are changed, I presume that all will agree that chemical industries, which depend upon these conditions, will also change. For this reason I offer no apology for having directed your attention for a few minutes to the very large issues which necessarily arise; my own views may be erroneous, but their expression may be useful in emphasizing the urgent need that our leaders in industry and chemical technology should reflect upon the whole subject and formulate sound views as to the development of the organic chemical industries of the British Empire."

Another noteworthy address was the speech of acceptance made by Dr. Ruttan, the new president of the Society, who, after, in his usual modest manner, stating that he realized the honor conferred upon him

was in recognition rather of Montreal and Canada than of his own achievements, said:—

"The name of 'Society of Chemical Industry' suggests co-operation between chemical science and its applications. It bridges to a great extent the gap between the university laboratories and the industries. It is expected then that such an organization, with its ideal and traditions, should have played a large part in the great movement now in progress of consolidating the various interests of the British commonwealth This spirit of co-operation and desire for unity of purpose is especially evident at the present time. The congress of Premiers and other representatives of the great dominions was held in London this summer; a congress of teachers of the universities and schools of the Empire, with representatives from almost every portion of the Empire, has just finished its sessions in Toronto; the congress of the universities of the Empire was held in the several great universities of England and Scotland during July of this year; and we have, in this Annual General Meeting of the Society of Chemical Industry in Montreal, evidence of a mutual desire to develop and strengthen the influence of British science and to bring in closer personal relations the chemists of Canada and England.

"This meeting serves to accentuate the imperial character of the Society of Chemical Industry; to bring home to chemists both in England and in Canada the fact that this great Society has for its object the advancement of chemistry and its application to industries beyond the confines of the British Isles. It is a fond hope of many, and one shared by myself, that, as a result of this meeting, not only will the number of Sections of the Society in Canada be increased and each Section strengthened, but that in the near future, Sections will be established wherever centres of industry exist throughout the whole Empire.

"A discovery that stands out prominently among the many resulting from the war is that chemistry is the real basis of human industry, and that industrial progress is more closely dependent upon industrial chemical research than upon any other single factor. Every Section of the Society of Chemical Industry established in the British dominions is a point at which the public may be inoculated with appreciation of chemical investigation. By judicious publicity the great reserves of public opinion may be mobilized and brought to bear upon those in whose power lies the development of the industrial interests of the country. The parliaments of the various units of the Empire are but the reflected images of public opinion. To receive recognition by legislatures, chemists must be organized, active and public spirited.

"No class in the community is more interested in such national questions as technical education, utilization of waste products, controlling and directing the application of scientific methods to the development of industries and of the resources of the country; no one profession is so well

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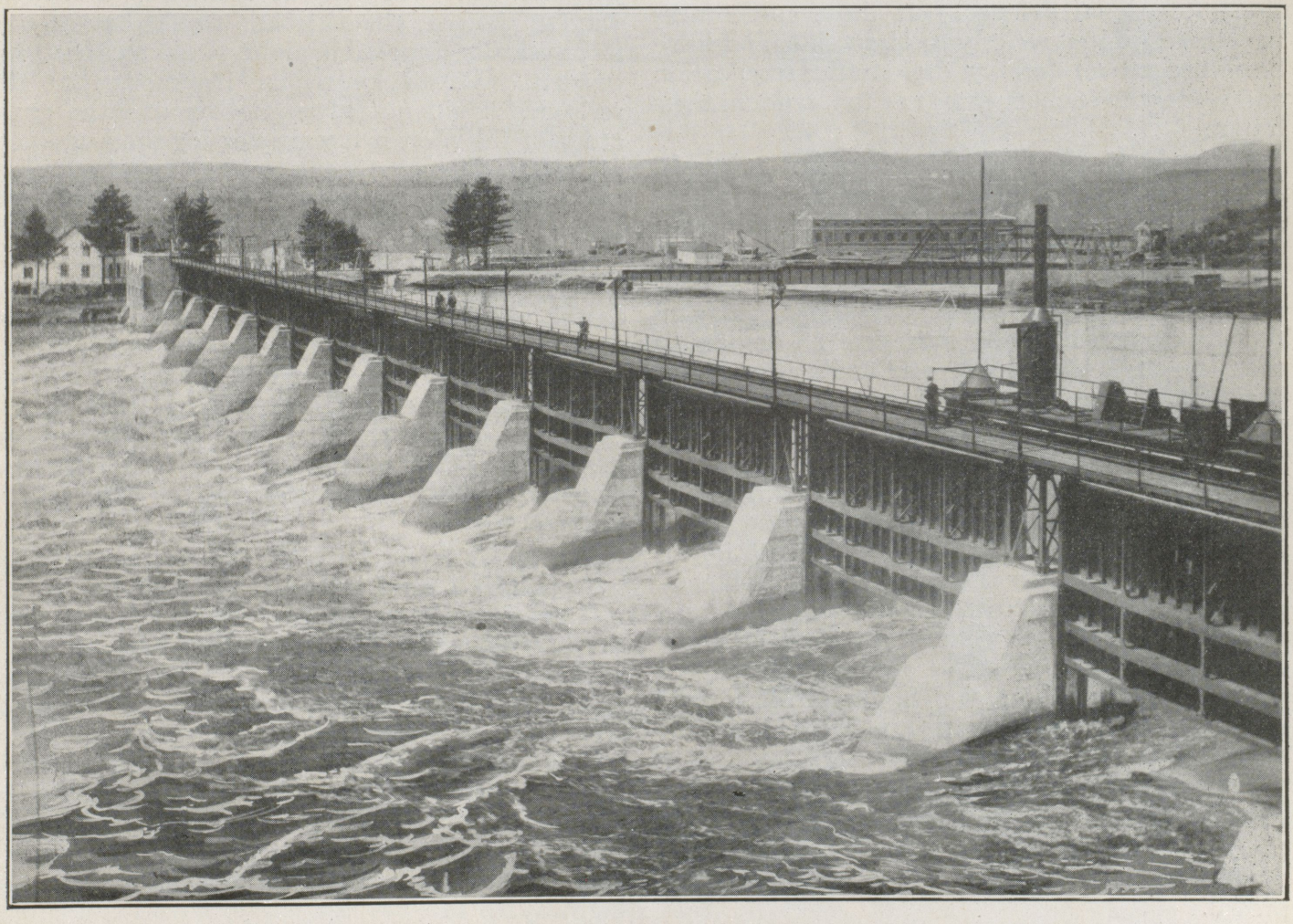

Here is a fine view of the dam and control gates of the Shawinigan Water & Power Company's huge hydro-electric development at Shawinigan Falls, Que.

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A MOMENTOUS CRISIS IN WORLD HISTORY.

NO EVENT in world history gives promise of having such portentous international consequences than the Disarmament Conference now sitting in Washington, for upon the outcome of its deliberations will depend the future peace of the world.

There have been previous conferences of the representatives of the chief world powers looking to an agreement as to policy on this great question of national defence, but those conferences have been limited strictly to discussion, and have been hedged around by diplomatic reservation and secrecy to such an extent as to foredoom their failure.

But the Conference now in session at Washington is of a very different character, and necessarily so, for since the last meeting of this kind the world has been rent with the most terrible war in history—a war in which more than sixteen million of the earth's finest young men gave up their lives, and as many more lost all or part of their economic usefulness—and civilization is not in the mood to countenance a program of national armament that can but lead to military aggression.

The United States, with its population of more than a hundred million souls, has spoken in no uncertain voice in favor of a cessation of world competition in the matter of armaments, and has backed up its position in the most eloquent manner, for what words could be more eloquent than its action in offering to scrap its own new capital ships, which, completed, would make it the most powerful fighting maritime nation on earth.

We believe in disarmament commensurate with national safety, and the plan proposed by the American Government, which would safeguard the world, meets with our heartiest approval.

OUR NATIONAL WATERWAYS OUR CHIEF ASSET.

WATER transportation has played a very important part in the upbuilding of Canada, and seems destined to play an even more important role in future. No other country, perhaps, has been more favored by Nature with a better system of waterways, and certainly no other country has developed her waterways more intelligently, so that to-day, through a system of lakes, rivers and canals, it is possible to travel to the ocean from almost the geographical centre of our country, bearing to the markets of the world the products of farm, forest, mine and mill, and carrying to the farmer, miner, manufacturer and consumer, the raw materials and commercial products they need.

It requires no vivid imagination to visualize the part water transportation has played in the upbuilding of Canada. The railroads which have linked the Atlantic to the Pacific in a bond of steel, have assisted tremendously in settling the widely distributed agricultural regions of this continent, but without Canada's water highway to the sea, the railroads would have found it physically impossible alone to have carried the burden. We all know, for instance, that the railroads could not attempt to move the grain crops of the West if it were not for the huge part played in this movement by the Canadian Fleet of Grain Carriers on the Great Lakes and St. Lawrence, which carry the greater portion of Canada's annual grain crop from the head of the Lakes to tidewater, or from the head of the Lakes to the various ports of Georgian Bay. The carriage of coal from the various ports of Lake Erie to both Eastern and Western Canada is rendered economical and expeditious through water transportation, for it is the boats that bring down Canada's grain that take back the coal which is so essential to the industrial life of the prairie provinces.

In our opinion, nothing will contribute more materially to the future growth and prosperity of Canada than a co-ordination of Great Lakes, St. Lawrence and Ocean Transportation, and I anticipate that the day is not far distant when we will be not only interchanging the necessities of commerce between foreign lands and our own inland seas, but passengers as well, for there is no reason why Canada's wonderful summer regions should not attract tourists from all civilized Europe, and why our Canadian people should not travel to Europe via nature's water highway.

Luck

By Colin McKay

THE transport "Atholmore" had just docked at Southampton, and Captain Blackader was looking over his mail when the old engineer entered his cabin.

"Well, chief, you made a good passage, considering," he said. "How is everything below?"

"Very hot and dry."

The captain produced a bottle. The chief helped himself to a stiff three fingers, and with a fervent "Good Luck," and a ceremonious flourish of his glass, swallowed the strong liquor at a gulp. Then, sitting down, he added, formally:

"I've nothing special to report this trip, sir, and I don't think I'll want anything."

The captain gathered up his letters and crammed them into a drawer with an angry movement. Then he poured a huge drink, and gulped it greedily. An expression of slow surprise spread over the gray old visage of the chief, as he noted the distraught manner of the master.

"You're worried, captain," he said. "I hope the girl——"

"She's no worse," answered the captain, hastily. "But my mother's letter is not encouraging. To think of that vivid, vital girl lying there paralyzed—it's driving me mad."

"It's tough luck. But a young healthy girl is bound to rally."

"Thanks."

The captain's dark, rather saturnine face twisted in a wry smile. "My luck is out for sure," he growled. "The super is due here this morning, and he is bringing Haley to take command."

"I thought that would be the way of it," said the chief quietly. "That man has a strange pull, though what it is I could never find out."

"It is only three weeks since he had the second ship shot from under him. Why can't they give him a holiday till the new ship is ready? Why should they put him over my head again? I won't stand for it."

"It isn't much use to try to buck against Haley. Apart from his pull they say he is a good skipper, though he has been mighty unlucky during the war."

"I've never seen him all the time I have been in the company. But he got the ship I ought to have had, and I have bitter feelings against him. If I'd got my proper promotion, I'd have been married before the war broke out, and my girl would never have been caught in that air raid."

There was an authoritative knocking at the door, and a little bearded man with an energetic manner entered, followed by a huge tall man with a florid face, massive and placid.

"Well, Blackader, here we are again," exclaimed the little man loudly. "Hello, chief! How are you? I've brought Captain Haley, Blackader. He's to take your ship. Sorry and all that. But the new ship won't be ready for some time, and we have got to look after Haley, you know. You'll have to step down for six months. The chief officer is leaving to join the R.N.R.—so that's all right."

Captain Haley, towering and calm, held out a big fat hand.

"Morning, Blackader," he said in a rumbling bass.

Blackader, on his feet, angry and agitated, ignored the friendly hand.

"I don't propose to recognize you, Haley, till I have had it out with the super," he growled.

The big man's broad face held its expressionless calm. "Well, I don't know as I blame you for feeling sore. But you won't refuse a thirsty sinner a drink." And he moved ponderously to the table and helped himself.

Blackader, flushed with rage and chagrin, turned upon the little superintendent. "I don't call this a fair deal," he said vehemently. "I have had this ship over a year, and there is not a mark against me."

"Oh, come now! Don't get on your dignity," interrupted the superintendent. "Haley is the senior captain, you know."

"Yes, and I was senior chief officer, but you gave Haley a ship before me, and it was not that there was anything against my record. If you put him over my head again, I quit the company."

"Oh, come now. I won't listen to that sort of talk," said the superintendent angrily. "You would have to take a junior's job in another company or join the R.N.R. Every port is full of shipmasters adrift, what with all the ships being sunk. We want you to remain here as chief officer; you know the channel and Haley don't. Inside six months you'll get this ship again, if she is afloat, or maybe a better one, for we are trying to get hold of some of the German boats."

"If you want a master who knows the Channel why shouldn't I remain in command?"

"Haley is the senior captain, I tell you. Besides, he has a large family."

Blackader angrily reflected that he also had obligations. He had to maintain a widowed mother, and the girl he wanted to marry, orphaned and left without resources by the same air raid that had left her paralyed. But except to the old chief he had always been reticent about his private affairs, and he was too sensitive to seek consideration on any other than professional grounds.

"After all, it is only your dignity that is hurt," rumbled Captain Haley. "You'll continue on master's pay, you know."

"Yes, that's so," said the superintendent. "Come to think of it, I forgot to tell you that in my letter."

In his anger and chagrin, Blackader had forgotten the necessities of his situation. But now he remembered them—and he reflected with a swift compunction that his selfish sensitiveness about his dignity was jeopardizing his chances of being able to give the helpless girl of his heart's desire the care and attention which the doctors said were the only hope for her recovery. No, he could not afford to go looking for a job.

"Well," he said, "if I can continue to draw master's pay, that is some consolation—sort of takes the sting out of it. I'll stop if you say so, but I'm afraid I won't get on with Captain Haley."

The superintendent laughed. "You needn't worry about that. Anybody that knows his work can get along with Haley."

"That's right, Blackader," the big man rumbled, placidly sipping whiskey. "The trouble with you is that you take things too seriously. What's a man's dignity, or his life, these times when thousands of good men are being killed and maimed every day, ay, and good women, too."

"Well, that is settled," said the superintendent briskly. "And now, Blackader, it is about time you offered me a drink."

The transport sailed the next evening with orders to proceed to Boulogne. When she dropped the

pilot at St. Helen's, Blackader came on the bridge to take her out through the Defence Area.

"Carry on, as if I wasn't here," said the captain, and installed his big body in an easy chair in the bight of the bridge.

The old steamer turned her nose towards the Ower's Channel, and ploughed on stolidly. A full moon rode high and bright in a cloudless sky; the sea lay flat and glassy. On such a night, making the courses through the Defence Area was an easy matter, and the mate wondered at the captain's command to carry on without regard to him. Was the old man influenced by the desire to show his confidence in him as an act of courtesy, or was he just shirking his work through sheer laziness? A couple of swift troopers with their escorts came up astern, and swept past like scalded cats, the waves of their wakes disturbing the placidity of the shining sea.

"Those fellows must be bound for Boulogne, too," observed the mate. "When we were in St. Helen's Roads, I noticed the signal station telling them Havre was closed. Probably submarines on the French side."

"Yes," said the old man without a trace of interest.

"Didn't hear anything at the Transport Office?"

"No."

The mate was annoyed by the placid indifference of that big man.

"If you have brought your luck along, it's a beautiful night for the U boats to get in their dirty work;" he growled with a note of hostility.

"Yes," said the old man.

The mate strode to the other side of the bridge, nursing his annoyance. He felt he ought to hate this big man, but he could find nothing in him to sharpen the edge of his grievance against him. He's just a putty man; there's nothing in him, he said to himself, contemptuously. And then he reflected that a man who stood so well with the company couldn't be a fool by any means. He recrossed the bridge mystified and angry.

The old man stirred in his chair and asked:

"What do you make the first course after we get outside the Defence Area?"

"That's up to you, isn't it," snapped the mate.

The old man looked around as if in search of something, observed that the third officer was on the other side of the bridge, and then said in a low voice:

"Mr. Blackader, you will not speak to me in that fashion. I allow that you may have a grievance against me, but you should not show it on my bridge. I asked you what you made the course, because you have experience with the tides hereabouts."

"Very good, sir," said the mate. "I make the course due east."

"That will be the course then. When you set it, start zigzag No. 7. Then you can go below."

When the ship was outside the Defence Area, and started on her zigzag up the Channel, Blackader went to his room. He was angrily conscious of a new respect for the old man, and ashamed of his churlish breach of shipboard etiquette. Certainly that big man was nobody's fool; he knew what was due the dignity of his position. If he had only blustered and raved, I could have had a row with him and enjoyed, the mate said to himself. But the way he took the wind out of my sails——

A sudden terrific shock—a rending roar—and the mate flung bodily out of his cabin found himself sprawling on hands and knees in the alleyway.

When he reached the boat-deck the old steamer was rolling slightly, and the night was filled with the deafening racket of steam roaring from the exhaust. The big moon looked down calm and unconcerned, and under its bright beams the still sea shone pacifically. The mate was vaguely amazed.

The captain stood at the side of the bridge, which was on the fore part of the boat deck, and, as he saw the mate, he shouted:

"Have a look at the damage, sir."

Even in his excitement, Blackader marvelled at the power of the big man's voice—the way it cut clear and calm through the uproar of escaping steam. Running to the after part of the boat deck he leaned over the starboard rail, and saw a huge hole in the side of the ship, through which the water roared like a mill race. Then he turned about with the thought of taking a look below, and saw the chief and another engineer clambering out of the engine room skylight. The chief came over and shouted in his ear: "She's done for. Hit her in the stokehold, and must have killed all the firemen there. Just had time to shut the steam off the main engines and open the exhaust. Then the stokehold bulkhead gave way and the water came in like a flood. Followed us right up. Lucky we had that ladder in the skylight."

The captain came off the bridge as the mate and engineers hurried forward.

"She's going! We'll quit," he boomed in his big effortless voice. "Port boat only, Blackader. I'll destroy my papers." And he turned into the chart room.

The ship had listed a little to port, and men were already clearing away the big lifeboat on that side. Amid shouts of excitement it was lowered into the water, and the crew piled into it.

When the mate was alone on deck he went to the door of the captain's room, and finding it locked, pounded on the panel, shouting, "All ready, sir. All ready, sir."

Then, as he waited for the master to come out, he looked around him. A quarter of a mile away a trawler patrol was heading towards them, the furrow of foam flung up by her bows gleaming brightly in the moon beams. The roar of the exhaust was dying down, but a glittering column of steam still ascended into the shining night. The ship, forging slowly ahead, came to an even heel; her well deck forward was now awash, and the mate was aware that she had ceased to settle, and that the noise of water rushing into her engine room was no longer audible. Apparently, she was resting on her bulk heads. But what the dickens was keeping the old man?

Blackader moved along to the door of the chart room, and, as he reached for the handle, his fingers came in contact with the key. A sudden sardonic thought held him motionless. If the old man attempted to come out that way, as he probably would, and found the door locked he would get a scare—he would be shaken out of that tranquil imperturbability which filled the mate with a foolish sense of rage and impotence. Evidently he had locked the doors of his own room to keep them from being opened suddenly and showing a light outboard, and the starboard door of the chart room was locked because the cut-off on the electric light was out of order. Ay, if the old man had mislaid the key of his own doors, he would get a fright. Conscious that he was yielding to a boyish and absurd impulse, Blackader turned the key in the lock.

"On deck there," shouted the second mate. "Hurry up, or we'll shove off."

The mate went to the side, and shouted back: "Hold on a minute. The old man is making his will."

Then he turned about, his ears cocked for the sound of the old man

fumbling at the door of the chart room. While he waited rather exhilarated and amused by the thought of playing a practical joke after being torpedoed, the ship trembled to a jarring crash as the bulkheads gave way, and the mate felt her sinking under his feet.

"She's going—shove off men! For your lives!" sang out the second mate.

In a panic Blackader sprang to the side, jumped for boat falls, and swarmed down them into the boat.

"Out starboard oars, and give way!" roared the second.

The steamer sank swiftly on an even keel, amidst a roar as of breaking surf. Before the lifeboat got way on her, she was caught by the suction of the wave that rushed over the disappearing decks, and overturned, spilling her occupants into a whirlpool of white waters. When Blackader recovered his wits, he found himself struggling in an uncertain sea. Around him, heads bobbed in an agitation of waters streaked with foam. Somewhere a terrified voice was crying: Oh, my God, I can't swim! Oh, my God, I can't swim!"

Blackader, looking around, observed the upturned boat, drifting away in the path of the moonlight.

"The boat's under the moon, boys," he shouted. "Strike out handsomely."

Then he noticed the man of the terrified cries clinging to an oar, and swam towards him.

"Hold on to your oar and shut up," he said. "I'll give you a tow." A strong swimmer, he struck out, and observed rows of white faces, turned to the moonlight, following him. Here and there a swimmer was dragging a sputtering man clinging helplessly to an oar. He swam along for several minutes and realized he was no nearer the boat. That upturned craft was drifting off as if in the grip of a current or tide rip.

The trawler patrol now hardly a hundred yards away suddenly swung about, and a spurt of flame flashed from her side.

The mate felt a mighty concussion and had a sensation of being shot bodily in air. An intense pain gripped him all over, and he saw as in a daze a gigantic geyser of crystal water boil suddenly out of the sea a cable's length away. Next thing he remembered he was under water, sinking, sinking, and powerless to move his limbs. He thought sardonically: This is the end, and for a moment was resigned. Then a rage of resentment filled him, and with an effort of will, he roused his flagging faculties, shook off the numbness of his limbs, and struggled to the surface. His head was ringing; he gulped the air with avidity, and feeling bruised all over, trod water weakly. While he gathered strength, he looked about him. A slight undulant swell radiating from a mass of seething white water bobbed him up and down. An oar floated near by, but the man who had been clinging to it was gone. He heard the moaning of men in pain and terror, and was aware that there were fewer white faces in the moonlight than there had been. The trawler two cable's lengths away was driving by at full speed, apparently intent on urgent business of her own, and heedless of the men in the sea.

Turning towards the upturned boat Blackader swam wearily, and was soon clinging to its keel. After him came the other swimmers, spluttering and blowing. They ranged themselves on either side of the upturned craft, so as to balance it, and waited in weary patience.

The trawler swung in a wide circle, and presently headed towards them. Soon she manoeuvred alongside, and they clambered aboard of her. The mate took count of the crew; the third mate, the second and fourth engineers, nine firemen and three sailors were missing. And no one had seen the captain; evidently he had been caught in the cabin when the ship went down.

Turning to an officer of the patrol boat, Blackader exclaimed angrily:

"Well, This has been a brutal night's work. That cursed depth bomb of yours killed more men than the U boat's torpedo."

"We thought we saw a periscope," said the patrol officer. "We noticed you in the water, but thought you were a good distance away."

Sick with anger, weariness, and the tingling pain of his bruised body, Blackader turned away, and noticed with surprise the funnel and masts of the lost ship sticking out of the shining and peaceful sea. Then he remembered he had turned the key of the chart room door, and had jumped for the boat without carrying out his intention of unlocking it again. But his mind was in such a state of wrathful confusion that he felt little compunction. He reflected dully that the water would only be a few feet over the captain's cabin—over Haley's head. Well, that big man's infernal luck had caught him at last, as well as fifteen other men out of a crew of thirty-five. Why did he want to come along with his infernal luck and take command of the ship and lose her—the first trip—before she was well at sea? Well, he would never take another ship over his head. And the mate reflected bitterly that now he was out of a job.

The trawler patrol took them into St. Helen's Roads, and put them aboard a boat bound to Southampton. Arriving there the mate and the chief engineer reported to the Naval Transport office, sent a wire to the superintendent in London, and then went to the Dock Hotel to have a nap. At noon the superintendent was with them, and they told their story. "Strange about the captain, isn't it?" the superintendent commented.

"He must have felt the ship going, and you'd think he would have had time to jump out, and make a swim for it, anyway."

"She was not many seconds making her dive," said the chief engineer.

"How long was he after his papers?"

"Two or three minutes, while we were launching the boat," answered the mate. "I sang out to him as soon as we were ready, and pounded on his door."

"It's strange," said the superintendent. "Her cabin must be high and dry at low tide; I'll ask the Naval Transport people to have a look for the body. . . . Well, I suppose you people want to go home. The agent will fix you up, if you need money, and I'll tell him to look after the men. So you can clear out whenever you like."

The mate left that conference with gloomy thoughts. He reflected that they would probably find the door of the chart room locked, the key on the outside, and the captain drowned on the inside. And what would they think? Of course they could prove nothing against him. But the superintendent was liable to arrive at the conclusion that he had turned the key out of revenge or with the intention of removing Haley from the path of future promotion; and a hint, a word, from the superintendent would wreck his professional career. Of course the captain should not have had the doors of his own cabin locked—that would seem strange, might divert attention from the turned key on the outside of the chart room door. In any case that big man could have broken out if the ship had not gone down so suddenly. Moreover, he would not have left the old man locked in if the ship had not gone down suddenly. But who would believe that he had only intended to give the big man a scare? Who would understand the boyish impulse bred of the peculiar feelings that big man's imperturbability had aroused

in him? A practical joke in such circumstances—it would be an absurd plea. And, anyway, his intentions did not matter now—the man was dead.

Blackader was free to go home, but he felt he could not face his wise old mother, his helpless sweetheart. He was sick at heart, disgusted with life. He felt like a murderer. He could not argue himself out of the sense of responsibility for the death of that big man, and he thought of the man's wife and children with sorrowful resentment. It was bad enough to be responsible for the death of a man even unintentionally, but to have the grief and sorrow of women and children upon one's head—that was maddening. Why didn't Haley hurry up with his papers? They might have got away before the ship sunk, and then the other men would not have been stunned and paralyzed and drowned when that infernal depth-bomb exploded. Haley and his papers were responsible for the death of those men, and they also had families—women and helpless children who were now stricken with sorrow, condemned to the meagre life of poverty and thwarted hopes. The mate cursed Haley—his own foolishness, the war—the world which permitted such outrages. And he went up to London and tried to drown his misery in drink.

After four days, Blackader came to the conclusion that drinking wasn't helping him to solve his problems, and he decided to see the superintendent, and face whatever had been discovered. He had seen nothing in the newspapers about the recovery of Haley's body, but that was not surprising in war time.

When he entered the superintendent's office he got a shock. Behind the flat desk sat Captain Haley, large as life, writing ponderously. Blackader stared incredulously, alarmed for his sanity. "Morning, captain," said the big man looking up. Then, noting Blackader's expression of surprise and alarm, he added: "You look as if you thought I was a ghost."

"I was sure you were drowned," Blackader stammered hoarsely. "I can hardly believe——"

"What? You didn't know I had escaped Davy Jones's locker," exclaimed Haley. "Where have you been buried? Sit down and I'll tell you the yarn. When I was gathering up my papers, the electric lights went out, and while I was hunting for a match I tripped and fell headlong into the dark. Next thing I remember I was lying in water. I scrambled to my feet. Of course I was in blind darkness, and for a moment I thought I was having a nightmare; then I realized where I was—in my cabin. I realized, too, that the ship was sinking; there was a great hissing and gurgling and splashing, and I could feel the water rising up my legs. I waded about, groping for the door; jets of water spurted against me. I found a door, but the water was squirting in through the jambs, even over the top. I realized my cabin was under water—that to force my way out was impossible.

"I groped about, found my berth, got up into it, and sat there, waiting. The ship came to rest on an even keel, and the water hissed and rose up to my middle, up to my shoulders. Presently it was up to my chin and I thought: 'Soon it will be good night.'

"I waited, and was very angry with fate. I did not like the idea of being drowned like a rat in a trap. All was quiet now—not a sound. And presently I realized that the water had stopped rising. I was puzzled. Then I remembered the ship was over the Ower's Shoal when she got hit, and I reflected that my cabin could not be very many feet under water. I remembered, too, that it was high tide, the top of a spring tide with a range of 26 feet.

"For minutes I sat still, noting the level of the water; it did not change. I began to hope. If the air did not leak through the roof of the cabin, if I could live in it for a few hours, probably the tide would go down enough to let me out.

"Ages dragged by. It was a dreary vigil. But I noted with exultation that the water held its level; the joiners who built that cabin made a good job of it. I was chilled, for the water was cold, but at length I began to feel drowsy. My head began to ache; there was a drumming in my ears, and my breathing became labored. I concluded I was exhausting the oxygen in the air, and my thoughts flew into a panic.

"Then I thought of the chart room I got out of my berth, and waded over the settee to the desk, and then felt for the doorway leading to the chart room. The water was above the top of the doorway; I put my hand through and felt air. I ducked under and through the doorway, and came up in the air imprisoned in the chart room. I gulped it greedily, and felt revived. Then getting up on the chart room table, I rested on my knees, and waited.

"More ages dragged by. At last I was aware of scuffling sounds overhead, as of little waves lapping over the roof of the cabin. A while longer and I could hear the little waves lapping against the side of the cabin on a level with my head, and then at last I realized that the water inside was falling. Soon I was able to open the door, and get my head into the free air. I stood with my arms over the door and my feet on the sill breathing gratefully. The fresh air was like wine, and the moonlight shining upon the sea was like a silver highway leading to life.

"Before long I was able to move around without danger of drifting overboard, and I found an air-tight tin of red signal lights, and started a celebration. About the time the boat deck was free of water, a patrol boat came along and took me off. She landed me in Portsmouth before dawn, and if I hadn't overslept, I would have caught you before you left Southampton."

"Which of the chart room doors did you come out of?" asked Blackader.

"The port one."

"I thought I locked it."

Haley looked nonplussed "What are you talking about?" he demanded.

"I turned the key in that door, thinking to give you a scare," said Blackader, uneasily. "Then while I waited for you to try the door, the ship suddenly started on her plunge, and I jumped for the boat in a panic. I've been thinking I was responsible for your death."

"You've been dreaming or drinking," said Haley. "Anyway it was lucky for me I was caught in the cabin. I can't swim a stroke, and if I had been with the rest of you, I would doubtless have been drowned."

"All the same I turned that key, thinking to give you a scare," Blackader insisted. "Your self-complacency, your imperturbable manner, got on my nerves. I wanted to see you in a panic."

"Well, you must have turned the key the wrong way, then," said Haley in a puzzled tone. "I think you are a bit of a boy yet, Blackader, but you are mighty conscientious."

Blackader got to his feet. "Well, captain, I am certainly glad to see you alive. I was badly cut up. I came to see the super., but I reckon it will be no use now. I expect I'll have to join the R.N.R. I bid you good day." And he started for the door.

"Hold on a minute," called Haley. "Saunders has gone with the African Line. I'm superintendent now, and I'll want you in about a month to take a German boat we have got hold

Continued on page 54

In the Year of Our Lord 1971

By Charles W. Stokes

WELL, we didn't quite hit the nine-million mark, Old Man Census tells us, but we came pretty near it. Seven millions and a quarter in 1911, three millions and a half in 1871—not so bad, hey?

Where the temptation of a Census comes in is the way it gets you prophesying. If you happen to be engaged in any industry the prosperity of which is involved in a bigger, more densely populated, and more completely developed Canada than the Canada of 1921—and there are very few Canadians who are not—and if things look more than ordinarily blue; if real estate doesn't sell, and mines don't repay working, and a few dull thuds in the stock market wipe out your margin, you can always get a certain amount of consolation by invoking posterity. "Think what this country will be in fifty years!" The invocation ought really to be made with a rising accent, thus—in FIFTY YEARS!

There is the tendency, of course, to speak with a falling accent, on the assumption that in fifty years we shall be so dead that however rotten business is it won't cause us much personal discomfort. There are, as a matter of fact, many people of nervous temperament who cannot contemplate the future without distaste, and to whom the year 1971, thrown at them hastily—just like that—is a fantastic thing that can never happen. They have terrifying visions of a Wellsian age of horrors, in which everything will be done by airplane, wars bought by gases and poisonous searchlights, and the earth will grow cold like the moon.

I confess, notwithstanding, that there is something of fascination in trying, in the light of our census of 1921, to imagine the Canada of 1971. It would be pleasant, for example, to check up the results of some of our contemporary optimisms, and to be able to say to our grandchildren, "There, I told your grandmother that!" I hope, anyway, that Canada in 1971 will not be Utopia. The word has unpleasant suggestions, for it contains the inference that the land in which your grandchildren and great-grandchildren, and mine, will be living, eating, voting and (doubtless) jazzing will be a milk-and-watery Earthly Paradise from which the nasty and depressing things will have been banished, and in which both sexes will wear bobbed hair and long robes of aesthetic color, subsist by picturesque village handicrafts such as wood-carving, and have surprisingly idealistic and communistic views of existence. Speaking personally I trust this will not be the case, for should I live only to be as old as my grandfather, I shall be alive in 1971, and I hope to be having a good time then on the strength of insurance policies that I shall draw in 1934 and 1949 respectively and wisely re-invest.

We have the satisfaction, however, of knowing that out of the thousands of Utopias conceived by wise men in the past none ever came true. It was Wells himself, the most reasonable, who pointed out that the Modern Utopia "must not be Static but

Photograph, courtesy Canadian Pacific Railway

A bird's-eye view of Halifax, Nova Scotia, showing the main business and residential sections and a portion of the magnificent harbor

Photograph, courtesy Canadian Pacific Railway
The historic Notre Dame Church, Montreal

Kinetic, must shape not as a permanent state but as a hopeful stage leading to a long ascent of stages." Kinetic the Canada of 1971 most assuredly will be. It will have been affected, of course, by the current of world events; but it will have so much larger a population of its own that its private Utopia will occupy most of its superfluous energy.

There is, to begin with, that problem of population. No spirit of vainglory animates the supposition that in 1971 Canada will have 27 million people to the United States' 200 million, or in other words, one person to every eight in the United States as against one to every twelve as at present. Canada's population is increasing far quicker proportionately than the United States'. Although we may not touch again the highwater figures that the two years immediately before the war witnessed, immigration in the future will undoubtedly be the chief contributory to our growth, just as that into the United States will probably decline in percentage. At the present time both countries are inclined to view immigration with alarm, and to impose barriers—Canada in the shape of occupational restrictions, the United States by racial. But British subjects in the British Isles may perhaps insist upon their right of free movement within the British Empire, in spite of local inhibitions; certainly more and quicker international transportation will make it increasingly difficult to continue the present drawbridge system of excluding immigrants whenever the fancy takes us.

Probably, also, our immigration between 1921 and 1971 will be more scientifically distributed. It required little vision to foresee Prince Edward Island obtaining as many immigrants, proportionately, as Saskatchewan, and the elimination of the present system amongst provinces of competitive propaganda. Our fear of immigration, again, is based upon the fact that the actual immigration we do get consists very little of agricultural immigration. This overlooks that beyond a certain point immigration will not only cease to be agricultural but also need not be agricultural; we can never develop our great resources and become a great industrial nation upon the natural increase in population plus agricultural immigration.

Our 27 million people, then, will not all be concentrated on the prairies. The prairies, indeed, will probably have eight million people; but it is reasonable to believe that the development of newer Quebec and newer Ontario will give those provinces at least seven millions each. The Maritime Provinces may cease to export its natives to the west, and may probably have at least two millions. British Columbia will have at least the same. The anomalies of the present provincial borders would if anything be accentuated; it is queer enough now, for example, that Lake of the Woods should be governed from Toronto, 1100 miles away, but it will be queerer still when there is a large population around Lake of the Woods. It may be too much to expect that the three Maritime Provinces will be amalgamated, or that the three prairie provinces should form themselves into two, with the dividing line somewhere about Regina; but there may be Algoma Provinces, under various names, that will include all the north country from Labrador to Prince Rupert.

Montreal may possibly have two million people then—perhaps more. Toronto, I think, will have about seventy-five per cent of Montreal's, and Winnipeg about sixty per cent of Toronto's. That is, if they continue to grow at their present rate. But will they? So far as one can see, the only advantage in really big cities is that they have lots of "shows;" and quite apart from the fact that in 1971 shows may possibly be available in much different forms, there are many economic reasons why our cities should not become such monstrosities as London or New York. Quebec, one hopes, will still be primarily an agricultural province, but Ontario is a more doubt-

Photograph, courtesy Grand Trunk Railway
A partial view of the City of Stratford, Ontario, showing, in the foreground, Riverside Park

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Electric power, it follows almost inevitably, will be utilized to a much greater extent than now; during these fifty years some one may even discover the means to use electric power for heating purposes at a low cost. Niagara and other convenient sources of power will be overtaxed, and the vast but at present too remote hydro resources in the far north will be drawn upon. The future of our natural resources generally is a subject upon which whole volumes could be written. It is obvious, however, that we are rapidly entering the age of conservation. New resources may yet be brought to light in our comparatively unexplored country—the wilderness around Lake Superior, for example, has yet to reveal its secret hoards—but the scare we had last year in regard to the depletion of our pulp wood should have a salutary lesson.

There are two interesting speculations a little aside from the main issue; firstly, whether our industries will move down closer to the coal supplies, i.e., from the middle to either end of the country; and secondly, whether by 1971 there will be more native capital invested in the development of native resources than at present, when, broadly speaking, our tremendous resources are largely controlled by foreign financiers.

From production to transportation is but a short step. Canada's history for the past fifty years has been largely that of the development of transportation; but for the present our railways are overbuilt. Not for many years will there be any particular revival in construction work; probably by 1971 Canada will have a railway mileage of about 67,000, representing the same ratio to population (400 people per mile of track) that exists in the United States to-day, as compared with its 39,000 miles (230 people per mile) now. The Canadian Pacific Railway will still doubtless be under private ownership in 1971, and still making money; the National Railway, too, may begin to prosper from about 1940 on.

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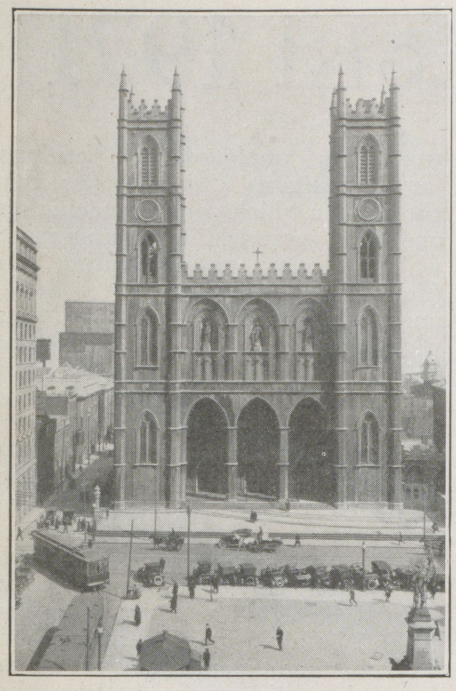
Photograph, courtesy Canadian Pacific Railway

Looking north on Yonge Street, Toronto, the chief commercial highway of the "Queen City"



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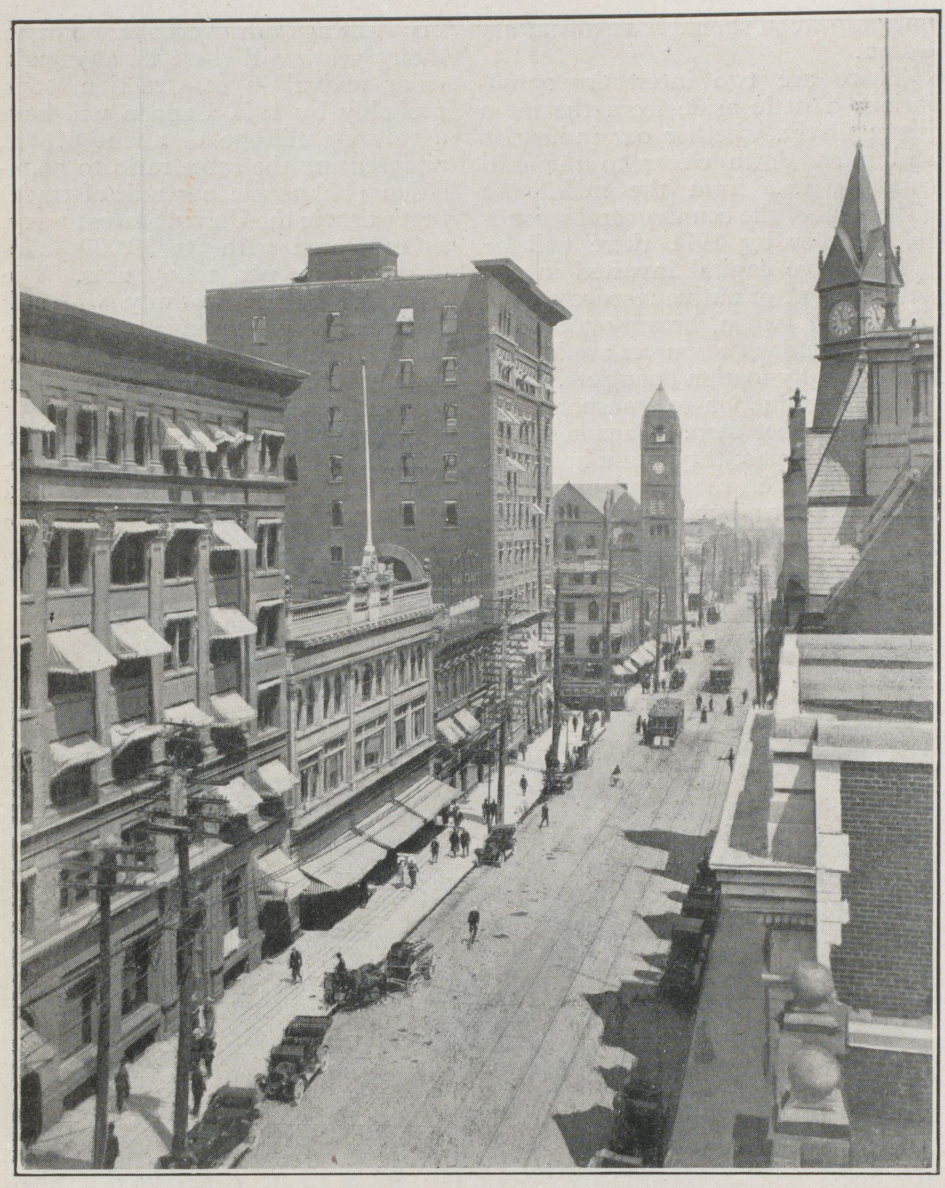


Photograph, courtesy Canadian Pacific Railway
One of the chief business arteries of Hamilton, Ontario

liarities. An erratic service interrupted every winter would not be a commercial proposition; and in summer our railways are so heavily taxed that aerial services, instead of competing with them, would be a useful auxiliary. So far, too, flying has developed no commercial advantage beyond speed. It would seem that aerial services will not become a necessity in this country until the possibilities of electrification, motor trucks, and water routes have been exhausted. Possibly by 1971 the Great Lakes canal system from Lake Superior to Montreal will have been completed, so that the 63 per cent of the wheat which we now export through American ports may perhaps be routed via Canadian ports.

But so far only the more statistical Canada of 1971 has been contemplated. There is an even greater fascination, increasing the deeper we go, in speculating upon the probable changes that will occur between now and then in the realm of social relations. What will the cost of living be in 1971—and house rents? How will the housing problem have been solved? Solved it assuredly will have been, for our population is due to triple itself, and although the "long ascent of stages" will be slow, it is to be hoped that we shall have the courage to tackle some urgent problems boldly. We shall probably have more and cheaper apartment blocks, central power plants that, distributing heat through underground pipes, will eliminate the existing costly and uneconomic system, large public auditoriums in every community, more skyscrapers, and better laid-out cities developed along definite lines of health and beauty.

It would be highly interesting, again, to speculate upon the future of our amusements—the quality and relative status, for example, of our magazines, literature, movies, vaudeville, and theatres. Shall we still read newspapers or shall we get our news on the movies—and if the latter, how will they handle advertising? If the former, will the paper shortage that is predicted have come to pass? Shall we be able to buy a drink in 1971, or will the lid be clamped down so tight that to the young "Seventy-Oner" the words "beer" and "whiskey" will be as meaningless as Sanscrit and Aramaic are to us? Utopia with or without Prohibition would or would not be Utopia, just according to how you view it; but probably about 1937 people will realize the dreadful effects of this wave of standardization and mediocritization that is sweeping over this continent, and change things, so that whatever Utopia is, it won't be "Blue."

There may be a revulsion from some of our present frenzie drecreations. Folks in 1971 may be dancing the schottische and playing whist; but depend upon it that they will be putting the then vogueish degree of jazz into whatever pursuit engages them. Young people will still be marrying, and baby carriages will still be sold, although already marriages are taking place so much later in life that the words "young man" have a different meaning. And whatever is the mode of transportation then, papa will still be telephoning home that he is detained at the office, and the suburban commuter will still be catching the latest 'plane out after the theatre.

Politics and foreign relations? That is difficult indeed to postulate; but I will assume that in 1971 there will be Canadians still predicting that Canada is destined to be the headquarters of the British Empire. Canada will still be overwhelmingly a part of that Empire, dominated less and less from 1930 on by the political expediencies of the United States; King Edward VIII will perhaps still be living; Western Canada will perhaps have conquered its conviction that Eastern Canada is "out to do them;" and Ontario may even be teaching French in its schools.

Well, it is exceedingly easy to prophesy, and a little fatuous. There seems on first glance that there should necessarily be a great gulf between 1921 and 1971, but the world moves very slowly after all.

Notes From Beyond the Rockies

By R. S. Somerville

BRITISH COLUMBIA is in a sense a territory set apart by nature from her sister provinces. The Rocky Mountains form a natural barrier as well as a distinct demarcation of resources. Few greater contrasts may be found than the rolling grass-covered foothills and the wheat areas of Alberta and the mineral-filled mountains, the vast timber tracts, the fish-stocked rivers and lakes, and the fruit-bearing valleys of British Columbia. East of the Rockies as far as the Great Lakes, wealth is computed in grain and cattle. Westward, it is more diversified. One may then see why the Pacific Coast province does not always think the same way as do its prairie sisters. The tariff alone is sufficient illustration of this difference of opinion. It is from natural causes, therefore, that British Columbia feels herself at times somewhat isolated from the rest of Western Canada, if not the entire Dominion. Almost the last to join the Confederation, she is the last to feel the fullest benefit of that union. Even to-day, one occasionally hears in Vancouver or Victoria the statement that the Rockies are too high for Ottawa to get a clear view of the needs beyond. Moreover, the viewpoint on the coast, especially in the port cities, is largely westward to the markets of the Pacific. British Columbia's products are sent to the foreign markets either west or south but not east because of the long railway haul and the mountain grades. She is probably more interested in the buying capacity of Japan and Australia and in general conditions there than in the business barometer of Montreal or Toronto. The opening of the Panama Canal has given her an easy water route to the ports of the Motherland, independent of the transcontinental lines, and Vancouver has visions of soon becoming one of the great shipping centres of the world.

Richly endowed by nature in many forms, British Columbia is nevertheless absolutely dependent on two very important kinds of assistance. One is immigration and the other is capital. Her resources of minerals, timber, fisheries and water power, not to speak of important areas of rich grain or fruit growing land, are vast and stretch over an immense territory running from the 49th parallel to the Yukon and from the coast to the Rockies, but wealth does not lie as close to the surface as in the prairie provinces. Mining is a costly and at times risky process, fishing requires expensive equipment, lumbering means heavy initial outlays, and land clearing runs as high as three hundred dollars an acre. More capital and more population are the great needs of the coast province to-day as has been the case ever since settlers began to make a living there. The climate is ideal and the rewards are ultimately rich.

Adequate transportation facilities also come under the head of urgent necessities. Many large and important areas of the province are still shut off from direct communication to large centres of population either by rail,

Photograph, courtesy Canadian Pacific Railway

The whaling industry is being again revived in British Columbia waters, and promises to regain much of its pristine importance

Photograph, courtesy Canadian Pacific Railway

A view of Granville Street, Vancouver, British Columbia, showing in the distance the Vancouver Hotel

water or highway. The topography of the country, with its many mountain ranges, river and lake systems, and timber-covered districts makes the construction of roads and trails very expensive. It must be remembered that the total population west of the Rockies is not much over 600,000, and half of this may be found in the cities of Vancouver, Victoria and New Westminster. An Empire such as this cannot be brought to high development by a comparative handful of men and women in a generation or two. There must be a steady influx of a desirable type of settler. With more population, there will be more revenue and, therefore, more money available for the opening up of the province and its untapped natural resources.

Considering its square mileage, British Columbia is sadly lacking in railways, and of those that are built a large portion is very badly placed. The Canadian National runs alongside the Canadian Pacific through the Fraser River canyon, a costly duplication of a very difficult engineering feat. Farther north, the government system is duplicated through the Yellowhead Pass, the former Grand Trunk Pacific and the Canadian Northern running side by side for hundreds of miles. The southern portion of the province is fairly well covered by rail, but in the great northern and central portions of the province the only line in existence is the Grand Trunk Pacific running westward from Prince George to Prince Rupert. The completion of the provincial railway, the Pacific Great Eastern, to connect with the Transcontinental at Prince George, is within reasonable sight. The southern terminus is at tidewater on Howe Sound. It was the original intention to run the line into Vancouver, but the construction of the thirty odd miles along Howe Sound would be a difficult engineering feat and extremely costly. Ultimately, it is planned to extend the road north into the Peace River country to tap the resources of that fertile and promising district. As it is, the railway passes through the well-developed Lillooet valley, one of the oldest agricultural districts in the province, and opens up a considerable agricultural area to the coast markets.

Another important artery of transportation, which will soon be constructed, is the British Columbia portion of the Trans-Canada Highway. The exact route from the coast to the interior has not yet been definitely decided upon by the provincial government. Three alternative routes are being considered. One is by way of Hope over the Coquahalla Mountain to Princeton and then on into the Okanagan Valley. The second is to build the highway through the Fraser River canyon under the railway right-of-way, using portions of the famous old Cariboo stage road. The third proposal is to diverge north from the Fraser Valley along Harrison Lake and Harrison River, passing around the coast range of mountains and coming out at Kamloops. The completion of the highway connecting the interior with the coast would mean much to the province as it would open up many new districts not now served with main roads. The money for the work has been voted by the Legislature.

British Columbia differs largely from the other Canadian provinces in that agriculture is not the leading industry. Lumbering, mining and fishing provide employment for a greater number of men and yield

greater financial returns, except in the case of fisheries during poor salmon years. Up to the present, farming and fruitgrowing are confined largely to the Fraser Valley, the Okanagan Valley, the Kootenay Valley and the southern portion of Vancouver Island. New farming districts are being opened up elsewhere, more particularly in the central portion of the province where the financial problem of land clearing is not formidable. Eventually there will be an immense farming community along the Grand Trunk Pacific and Pacific Great Eastern railways. Elsewhere, land clearing is a slow process. It will be many years, and probably never, before agriculture displaces lumbering and mining as the leading industries of the coast province.

It is estimated from geological surveys that the mineral resources of British Columbia are as yet largely untapped. Almost every important mineral from gold to coal exists in abundance and the development now being carried on is negligible when compared with the potentialities of the future. But mining enterprises require a great deal of initial capital and the coast province will have to depend on outside capital for many years to come. Mining is not a poor man's game. In the case of the Britannia Copper Mines on Howe Sound for example, one of the greatest copper properties in the world, several million dollars were invested before one cent was paid in dividends. It must be admitted that in this case as in several others, such as Granby, American capitalists were the first to recognize the possibilities of big returns and had the courage to back their faith with their money.

For many years, the coast province has been agitating for the establishment of an iron and steel plant. There have been several investigations made by British and American engineers of the available ore bodies. An early beginning on the project has been rumored so often in times past that even the most sanguine person has begun to lose hope. It is admitted on every hand that the manufacture of steel would place British Columbia in a very much stronger position industrially. Her shipbuilding yards have had to haul the steel plates and other material required in the construction of steel freighters all the way from Pennsylvania or Sydney, placing them under a big handicap in competition with eastern yards. The only necessary product used in the making of iron and steel lacking west of the Canadian Rockies is hematite, and this would have to be imported from California, Mexico or South America, but many mining experts are confident that this mineral will soon be discovered in British Columbia in sufficient quantities to be of commercial value. All the other fluxing materials are to be found there in abundance. On the coast the advent of the British Empire Steel Company is believed to mean that the establishment of a big steel plant there is a certainty of the near future. This would ensure a rapid increase in the number of industrial plants in Vancouver, especially because of the strategic position occupied by that

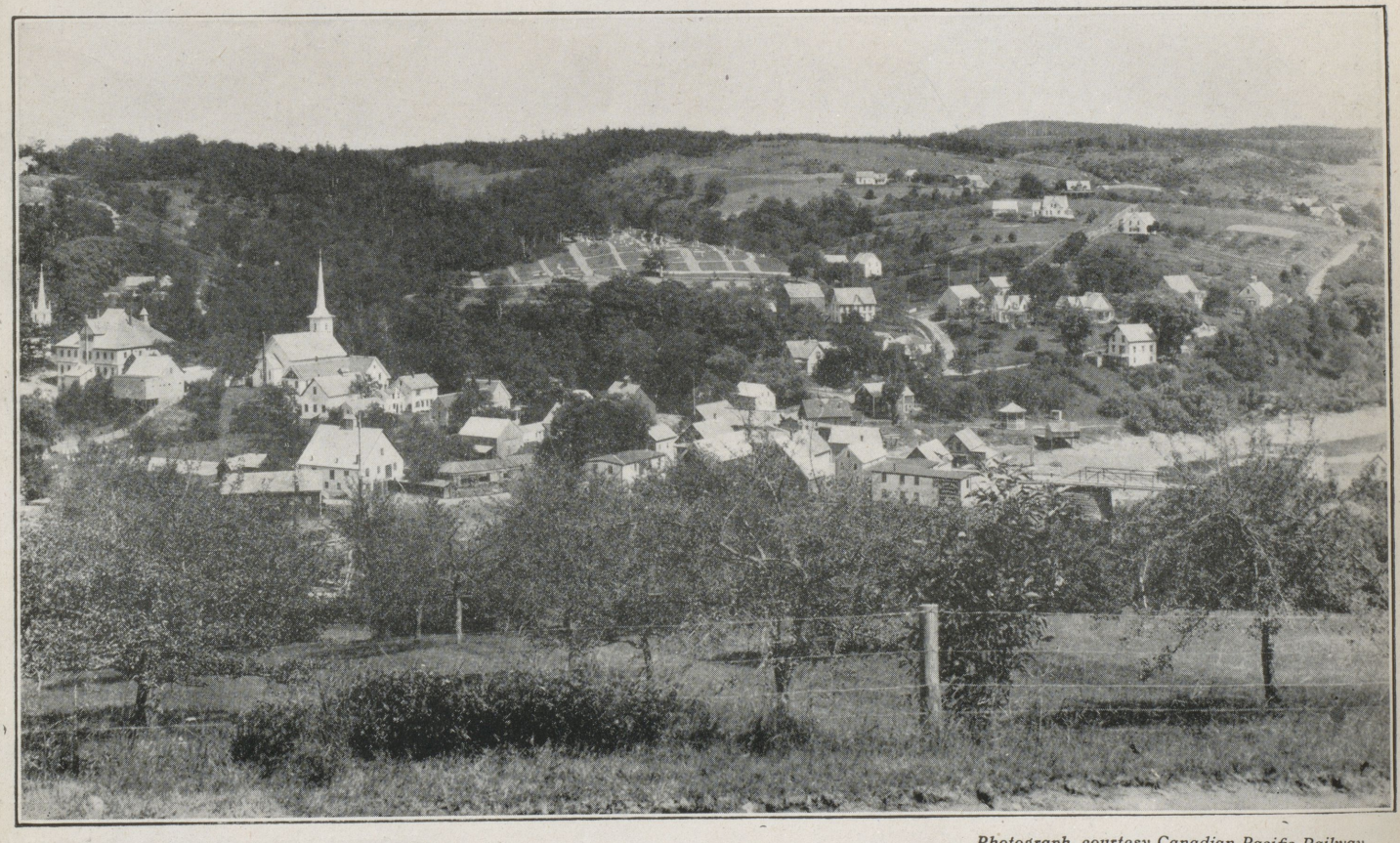
Continued on page 55

Photograph, courtesy Canadian Pacific Railway

A magnificent view of the Canadian Rockies, near Banff, Alberta.

Photograph, courtesy Canadian Pacific Railway

A view of Wolfville, in the "Land of Evangeline," showing in the foreground, Wolfville College



Photograph, courtesy Canadian Pacific Railway

Bear River, Nova Scotia, lies in picturesque seclusion in the famous Annapolis valley of surpassing beauty

The Triple Celebration at Annapolis Royal

By Effie May Ross

"A WISE nation preserves its records, gathers up its monuments, decorates the graves of its illustrious dead, repairs the great public structures, and fosters national pride and love of country by perpetual references to the sacrifices and glories of the past."—Hon. Joseph Howe.

In accordance with these eloquent words of one of her most famous sons, Nova Scotia—the premier province of Canada—celebrated at her ancient capital, Annapolis Royal, on August 31st, a trio of anniversaries of paramount interest; for they commemorate such historic events as the tercentenary of the Royal Charter of New Scotland to Sir William Alexander; the bicentenary of the establishment of the first British Court of Common Law in the Dominion; and lastly, the centenary of the arrival in the town of Judge T. C. Haliburton, of world-wide fame as a litterateur.

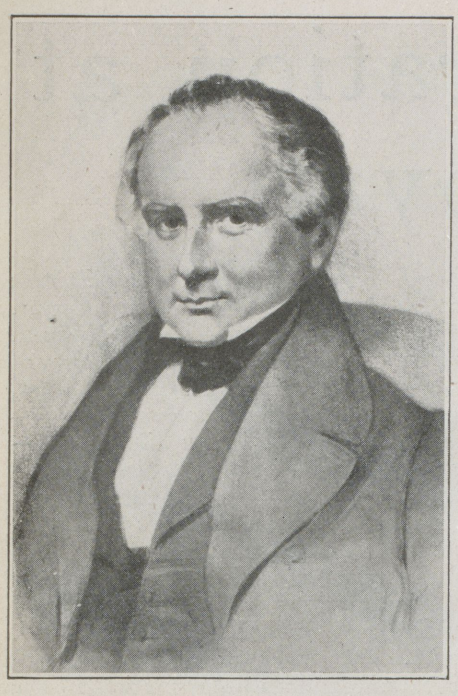
On that occasion, attended by many distinguished visitors as well as dignitaries in church, state, university, literary and historical circles, the old Fort of Queen Anne—bathed in glorious sunshine and possessing now a Museum rich in antiquities—was the scene of the ceremonial unveiling, by His Honor the Lieutenant-Governor of Nova Scotia, of three handsome tablets, each resting upon a large rustic birch easel, behind which stood a staff on which specially presented flags were hoisted. During the introductory remarks by the Chairman—Mr. Justice Chisholm, President of the Nova Scotia Historical Society—under whose auspices the celebration was held, congratulatory cables and letters were read from the Lord Chancellor of England and the Hon. W. H. Taft, Chief Justice of the United States; and then the Hon. MacCallum Grant, removing the flag of New Scotland, given by St. Andrew's Society of Glasgow, unveiled the first tablet, which, adorned with appropriate historical emblems, is thus inscribed:—

"1621-1921. This Tablet, placed here by the Government of the Province of Nova Scotia, A.D. 1921, commemorates the three hundredth anniversary of the issue of the charter of New Scotland, by King James I of England and VI of Scotland, A.D. 1621. The birth of an idea which lived, and had its final fruition in the taking of this Fort and conquest of Acadia in the reign of Queen Anne."

In the fine presentation speech of the Premier—Hon. George H. Murray—himself not only a distinguished representative of the people proud of their Scottish ancestry but also remarkable as the Premier of a British dominion with the longest record of continuity in office—made the

Photograph, courtesy Canadian Pacific Railway

The Old Fort at Annapolis Royal, where were laid the foundations of Nova Scotia.



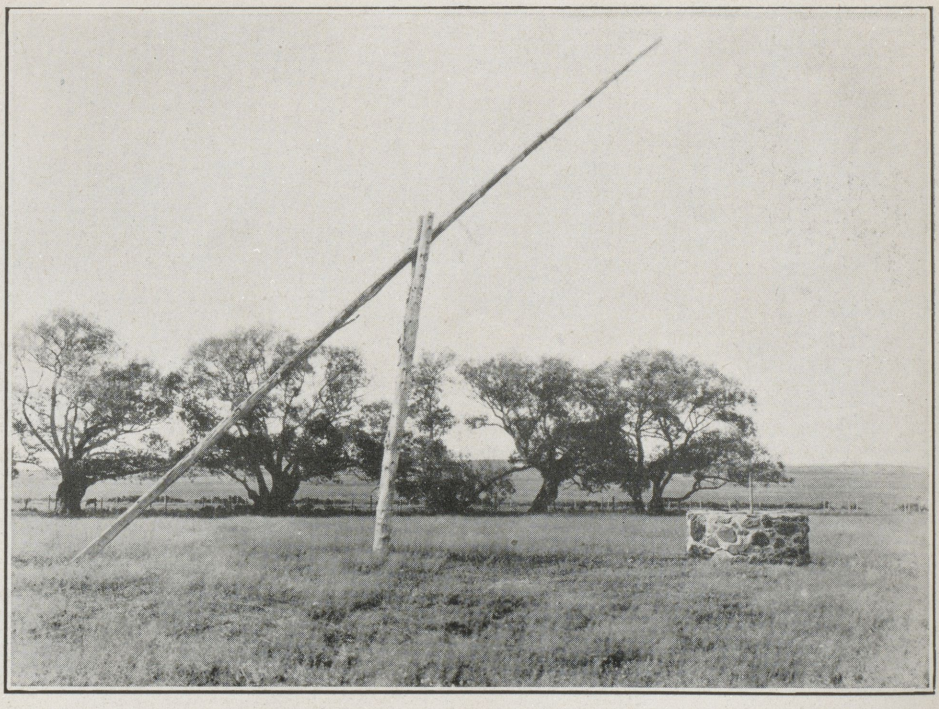
Thomas Chandler Haliburton
From an engraving in the Dominion Archives

very interesting announcement that the use of the original Coat-of-Arms granted to Nova Scotia in 1625 by Charles I was to be revived, thereby displacing the modern crest erroneously foisted upon the Province in 1868 after Confederation. This historic grant of arms by the Stuart King may be thus described: Silver, a cross of St. Andrew blue with an inescutcheon of the Royal Arms of Scotland. Supported on the dexter by the Royal Unicorn and on the sinister by a savage or wild man proper. Crest, a branch of laurel and a thistle issuing from two hands conjoined, the one armed and the other naked. Motto: Munit Haec et Altera Vincit—One defends and the other conquers.

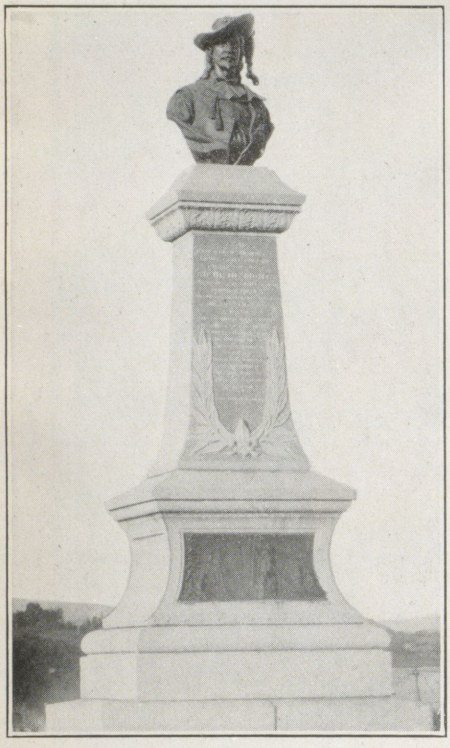
At this juncture a few words relative to Sir William Alexander may be deemed apropos, but the history of Port Royal (as the ancient capital was originally named) opens with the arrival on June 16th, 1604, in Annapolis Basin of Sieur de Monts accompanied by Samuel Champlain—destined to win immortal honor as the founder of Quebec in 1608—and Baron Jean de Poutrincourt. Having received a grant of its lands, the latter in the following year, "being pleased with the situation at the mouth of the Annapolis river, sent a squad of gardeners and farmers here where the town of Annapolis now stands, and where it was alleged the soil was open, clear of forest trees and easy of cultivation," and erected buildings there in the form of a quadrangle—the first permanent European settlement in Canada. In 1613 the English settlement founded at Jamestown, Virginia, in 1607, sent a squadron of three vessels under Capt. Samuel Argall to destroy the fort and all signs of French power at Port Royal; and Poutrincourt, thoroughly disheartened, returned to France to die, though his son, Biencourt, remained at least till 1617 to lead the life of a coureur de bois among the friendly Micmacs.

Four years later Sir William Alexander of Menstrie, near Stirling Castle, applied to James—the first Stuart King of England—for a grant of Acadia, stating in his memorial that the whole of the territory bordering upon New England was an uninhabited wilderness likely to be acquired by the French (who had already engrossed the fur trade with the Indians) unless active measures were adopted for its Scottish settlement. Three hundred years ago it required very little solicitation to obtain the gift of a province in America, so proceeding on the authority of the Lord Chancellor and other members of the Privy Council of Scotland, the Royal Warrant for a Charter was accordingly prepared and signed by the King at Windsor Castle on Sept. 10th, 1621, and duly registered at Edinburgh on the 29th of the same month. This munificent gift—greater far than the King's dominion at home—embraced the St. Lawrence, "the great river of Canada, Gaspe, Cape Breton, Cape Sable and Newfoundland, including and comprehending within the said seacoast and their circumferences from sea to sea all continent lands, with mines, bays, torrents, etc., etc.; which grant was subsequently increased so much that the best part of the northern section of the United States and Canada came under his absolute jurisdiction, with permission to use the minerals, fisheries, forests, erect cities, appoint laws, hold courts, grant lands and coin money."

To this vast territory of New Scotland—with the St. Croix changed to the 'Tweed,' the St. John River renamed the 'Clyde,' and others called the 'Solway' and 'Forth,' while Cape Breton received the title of New Galloway — its Lieutenant-General, Alexander, soon dispatched ships with Scottish emigrants under the command of his son, to take possession in the name of his sovereign as an appanage of his Kingdom of Scotland. After various vicissitudes on the stormy Atlantic these daring pioneers settled on the Granville side of Annapolis Royal, opposite Goat Island, about four miles below what is now Annapolis Royal, where they built the Scotch Fort (1628) on the site of the previous French fortifications—traces of which were visible till quite recent times, though its Scot-



Photograph, courtesy Canadian Pacific Railway
The "Evangeline Well," where the heroine of Longfellow's lyric is supposed to have met her lover, Gabriel.



Statue to Sieur de Monts, Founder of Port Royal

tish construction has been denied by French Commissioners. The Scotch settlers were unfortunately beset by divers tribulations and hostile French and Indians from the first, thirty of them dying during the first winter from privation, so the survivors willingly acquiesced on the arrival of Isaac de Razilly with two armed French ships bearing letters from Charles I and Sir William Alexander, directing Capt. Forrester—as commander of the Scotch Colony—to surrender the Fort under the terms of the Treaty of St. Germain-en-Laye in 1631. The emigrants having become merged with the French population, there is little evidence to-day of Scotchmen ever having been in the western part of the Province, and we know that in 1630 Sir William Alexander transferred all Nova Scotia, except Port Royal and La Have, to his friend Claude de la Tour, thereby forfeiting the right of his successors to renew the claim.

It is worthy of note that this "father of Nova Scotia"—born about 1580, first Viscount of Canada (1630) and created Earl of Stirling (1633)—had the blood of Scottish Kings coursing in his veins, being descended from John, Lord of the Isles, who married Princess Margaret, grand-daughter of King Robert the Bruce; and in strength of character, integrity and versatility of gifts was the greatest Scotchman of his age, playing a conspicuous part as scholar, courtier, colonizer and poet; for Milton read his works and Addison praised them highly. In 1625, immediately after the death of James VI, his successor, Charles I, not only renewed the Charter granted to Alexander, but, in order to aid his scheme of colonization, instituted the Order of the Baronets of Nova Scotia "among gentlemen of good birth, not to exceed one hundred and fifty in number," who, after paying £160 for the honor, would also receive a grant of six thousand acres in Nova Scotia which they were required to fill with Scottish settlers. The installation of this interesting ceremony took place in the Courtyard of Edinburgh Castle, which place, by royal decree, was declared to be an integral part of New Scotland, and as this edict has never been annulled, the parade ground of this historic Castle is still legally an integral part of Nova Scotia. No fewer than forty-two peerages—including the Marquis of Rosebery and the Marquis of Aberdeen—are still held with the title of Baronet of Nova Scotia; and by a letter to the Privy Council given at Whitehall on November 17th, 1629, its possessors were authorized by King Charles I to wear a personal decoration of an orange-tawny silk ribbon, whereon shall hang pendant in a silver shield, a blue saltire thereon, an inescutcheon of the Arms of Scotland with an Imperial Crown above the shield, and around the whole the motto: "Fax Mentis Honestae Gloria"—"Glory is the torch of a noble mind." The terms of the King's warrant to the Lyon King of Arms in 1635 required that the Earl of Stirling and first Viscount of Canada could alone bear the Arms of New Scotland in a quarter of his shield—significant of the gracious favour in which this "philosophical poet" was held by his sovereign; and it may here be added that the beaver—now supposed to symbolize the intelligence, industry and perseverance of the people of this fair Dominion—first appeared as the emblem of Canada in this historic Coat of Arms.

"Mais revenons a nos moutons," for we have wandered far afield from Port Royal, which, during the first one hundred years of its existence, was either captured or re-captured fourteen times, until finally by the Treaty of Utrecht in 1713 the most of Acadia was restored by France to Britain and the name of Nova Scotia again revived; those Acadians who wished to remain under the French flag being permitted to remove to Isle Royale (Cape Breton) though many remained in their happy homes at Annapolis Royal, as the capital was now called in honor of Queen Anne. In addition there were about twelve English families having their residences for protection near the Fort, so in 1721—inspired by the traditional British passion for law and order—the Governor, General Richard Philipps, wrote the Secretary of State that "in order to establish Civil Government, the Government and Council have resolved themselves into a Court to meet four times a year. The notion that

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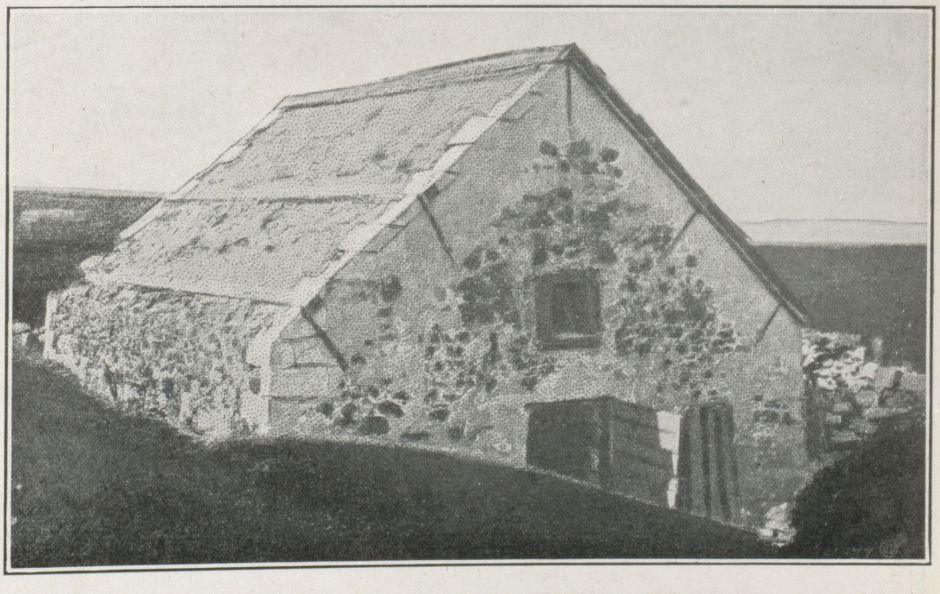


The Powder Magazine of the Old Fort, Annapolis Royal

Photograph by Garnault Agassiz

A partial view of the Harbor of Vancouver, showing in the distance the snow-capped Rockies

Notes From the Canadian Capital

By Charles Bishop

EVERY four or five years the country, of necessity, is hurled into the turbulent current of a general election, and, at this writing, we have just gone over the brink. Of the desirability of this constitutional method of consulting the people nothing need be said. It is the democratic way. It is preferable, in many respects, to the American system of fixed date elections, at stated periods, in that, whenever a great emergency arises or a Government is embarrassed by defeat, real or apprehended, an appeal may be made to the electorate. From out of a new batch of public representatives, sufficient genius of administration is always available to form a Government. The legal tenure of Parliament is five years, but there is much precedent for going to the country at the end of four. Often, by that time, Parliament is full of lassitude and becoming tired of each other's company, and almost invariably great issues arise upon which the pronouncement of the people is an essential factor of determination. Such is the case in the present instance.

Without venturing upon a political discussion with the slightest tinge of partisanship—an aspect scrupulously avoided in this magazine—it is opportune to say something of the Parliament which has just been dissolved, making allusion to its somewhat peculiar composition and adding something of the parties that now face the country, the personnel of their leadership, their underlying policies, and the peculiarity of this election as distinguished from those which have preceded.

The Union Government, elected in 1917, and the Parliamentary Party which supported it were an anomaly in Canadian political history. When this is said, no offence is sought to be conveyed. The conditions as they existed at that time were wholly peculiar, the country being involved in the peril of the world war, and a Union Ministry being considered advisable under the circumstances in order that the effort might be greater and more efficient. The ideal course would have been a whole-hearted coalition of the two historic parties, but this was found impossible, and it is not necessary now to discuss the particular obstacles to a complete but tentative merger. When the coalition negotiations proved abortive, the alternative was an alliance between the predominating party and those of the Liberal Party who were prepared to cast in their lot with it. The arrangement was effected, the Government was returned by a large majority, and the war was seen through to the finish. Following its conclusion, however, and with a return to normal con-

British and Colonial Press Photograph

A troop of the Royal Canadian Dragoons, Canada's crack cavalry establishment

British & Colonial Press Photograph

In the Windsor Station of the Canadian Pacific Railway, Montreal has one of the most imposing and best appointed passenger terminals on the continent

ditions in the country, the tendency has been pronounced towards disintegration and the development has been notable indeed.

Announcement of the pending dissolution of Parliament finds the electorate rather perplexed by the confusion of issues and parties. Ever since Confederation we have had but two historic schools of political thought—the Conservative and the Liberal Party. The upheaval of 1917 cut across the old lines and tended to temporarily submerge many of the prevailing differences, and while the present ministerial party is, basically, the Unionist Party of four years ago, the personnel is altered materially, the policy is, of necessity, suited to normal rather than to war conditions, and a Cabinet extensively reconstructed, goes to the country to preach the new evangel. The Liberal Party, undoubtedly, with the renewed adherence of many of the faithful who strayed from the fold four years ago, is a live and aggressive entity, and then, most remarkable of all, we have an entirely new party, variously called the Progressive or the Agrarian Party, whose genesis in Parliament was from malcontents with Unionism, but who, in the country, boldly challenges the predominance of both divisions of the old order. For the first time since Confederation, the alternate monopoly of Liberals and Conservatives is threatened by the appearance on the scene of this new factor in the body politic. While, in the past, there have been some ephemeral waves of independent action, their attack upon the old line parties was never very menacing. Few, however, will be prepared to minimize the virility of the present movement if its success in recurrent federal by-elections as well as its provincial domination in two provinces is to be accepted as a criterion. These elections show the Progressive Party, so called, to be a formidable factor west of the Ottawa river, and likewise, to some extent, in the Lower Provinces

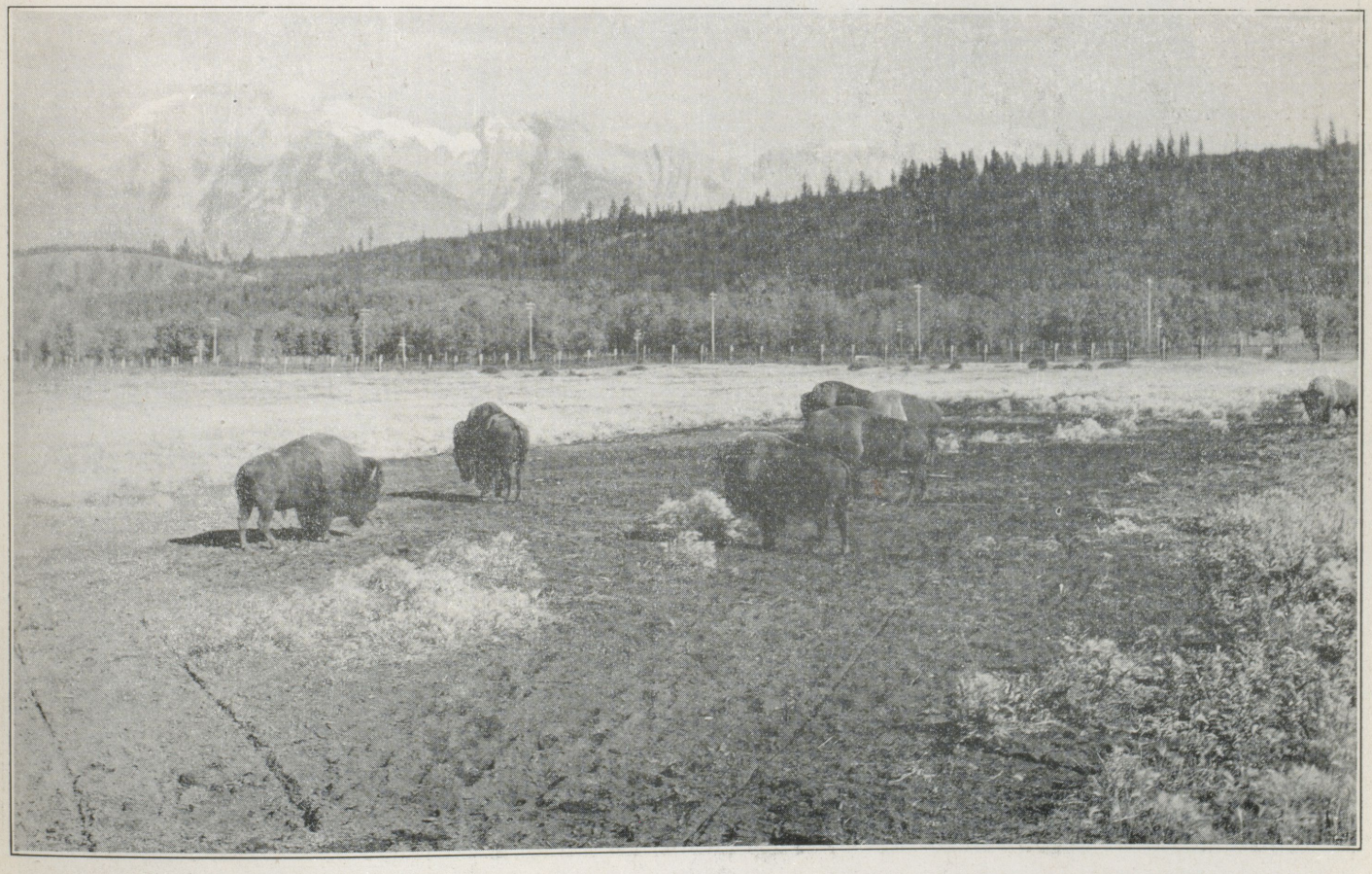
The history of the rise of this new party is dissimilar from that of the Progressives in the United States. The latter had its origin in the dissatisfaction of the progressives in the Republican Party with the elements which controlled its policies. Similarly, the new Canadian Party had its birth in the dissatisfaction of its adherents with both branches of the old order. It disliked the fiscal policy of the Union Government and, while the policy of official Liberalism was perhaps more to its taste, it was found to be insufficient to appease the appetite. The Agrarian Party, in consequence, has set up a house by itself and enters courageously upon a life of political independence.

Nominally, the election is being fought on the tariff question. Premier Meighen, at least, is straining

A bird's-eye view of the Royal Military College, Kingston, Ont.

every effort to make it turn in that direction, but the other parties, while by no means evading this issue, insist upon the discussion of others. The administration party stands for the maintenance of the existing schedules of customs duties, but goes further. It maintains that not only should the tariff be one sufficient to provide the greatest source of public revenue, but, as well, that it should embody the principle of protection to Canadian industry. This is largely a reaffirmation of the national policy introduced by the late Sir John A. Macdonald. On the other hand, the Liberal Party espouses the cause of a tariff for revenue though some of its spokesmen adhere vigorously to the fiscal policy of Sir Wilfred Laurier, from which the element of protection was by no means eliminated. What the party appears to be aiming at is the complete readjustment and revision of the tariff, maintaining some of its features and discarding others. The Progressive or Agrarian Party, whose long suit is the tariff, stands for radical reductions in a long list of commodities, and presents the device of attaining free trade with the Mother Country by the gradual increase in the British preference. Latterly, there has been a rather significant alteration in the party's fiscal policy. It has always stood for free trade with England within a period of five years, but, recently, the party executive known as the National Council did a little revising. The five-year provision was eliminated, presumably because of the predominating view that that period was too short in which to bring about a change so radical in its nature. While free trade with England, or rather with the United Kingdom, is still the ultimate goal, no time limit is placed upon the period of its attainment. There is another element looming up in the present fight, and, while it is not so formidable, it need not be hurriedly dismissed from party calculations. We have an independent Labor Party which, in many urban constituencies, will do battle on its own behalf, and introduce a condition which, though not entirely new, has never been extensive heretofore. There appears to be a significant alliance, anomalous as it will seem to some, between the labor party and the farmers. The potentialities of this situation are very considerable and cause apprehension among the devotees of the old traditional order.

So much for the parties and the respective ground upon which they stand. Let something be said now of the leaders, of those who are directing their forces into the thick of the fray. The generalship is entirely new. Since 1917, Sir Wilfred Laurier, leader of the Liberal Party, has passed forever off the scene. Sir Robert Borden, former Premier, while still an active figure, physically, is out of politics. He is replaced by the Right Honorable Arthur Meighen, and Sir Wilfred's mantle has descended upon the Honorable William Lyon MacKenzie King. The Progressive leader in the fight is the Honorable Thomas Alexander Crerar. It is not necessary here to enter into any lengthy biography of the three party chieftains. Mr. Meighen, though still in the morning of a very brilliant career, is a seasoned parliamentarian. He came into the house in 1908, and joined an opposition which was notorious for its efficiency and the vigor of its attack. The present Premier was young at the time, but he soon made his mark. Delicate of appearance, he possessed what may be described as a flaming energy, and it was duly applied. An acute mind mounted to every task, and his assignments



Photograph, courtesy Canadian Pacific Railway

The buffalo herd at Banff Park, Alberta, is increasing in size each year

in the party cause were abundant. He rose from the ranks of an ordinary member to that of Solicitor-General, then, up the ladder, to the full status of a Cabinet Minister, successively in the State and Interior Departments, and, finally, has attained, in the Premiership, the political peak of Olympus. Mr. Meighen is a persuasive speaker, perhaps most at home in attack, but, also, strong in defence. No one will deny his fighting capacity. He has taken into the campaign a tremendous vigor, personally, while the reconstructed Cabinet supplies a deficiency which long has been noted. It is full of men who are at home on the hustings.

Mr. MacKenzie King, who came into the House the same year as did Mr. Meighen, is a different type. Physically, it is a case of the short and bulky compared with the lean and lithe. Mr. King may be described as an intellectic. He has a dozen college degrees and is an author and specialist on economic and industrial questions. He speaks with a fluent felicity of diction and is pleasant of voice. Some may say his tendency is to speak too long, but that is wholly a matter of opinion. He was in the Laurier Government in the two years immediately preceding its defeat, and so he is able to combine parliamentary with administrative experience. He has youth and energy and vaulting ambition. It is a rather curious thing that all three leaders are, approximately, of the same age—around forty-six. They are in the very hey-dey of what is known as a public career.

Mr. T. A. Crerar is a business man. He must be of the hard-headed type to manage a corporation whose aggregate, in some years, has equalled the outlays of the Dominion Government. He is new to politics, comparatively. He had his first baptism in 1917 when he entered the Union Government. After the war was over he left the Ministry because its fiscal policy came in conflict with his views and those of his organization. He went to the cross benches and, as the most conspicuous of its occupants, his selection as leader had about it considerable of an automatic process. He speaks well in the House and on the public platform, and gives evidence of being a thoughtful student of public questions. Whether his party has come to stay or is but one of those numerous transitions in the wake of a world upheaval, it is an impressive factor in this fight, and, neither collectively nor individually, is the personal element lacking.

Dissolution of Parliament has taken place and the e'ectoral battle is on under conditions which, in several respects, are unique. To begin with,

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Photograph, courtesy Canadian Pacific Railway

The Empress Hotel, of the Canadian Pacific Railway System, at Victoria, British Columbia, is one of the finest examples of modern hotel construction on the continent

ON LAKE AND STREAM IN CANADA

Autumn On The Waters

Being Descriptive of Fishing in The Autumn; Where to go For The Big Fellows; Tackle to Use; And Other Notes

By Robert Page Lincoln

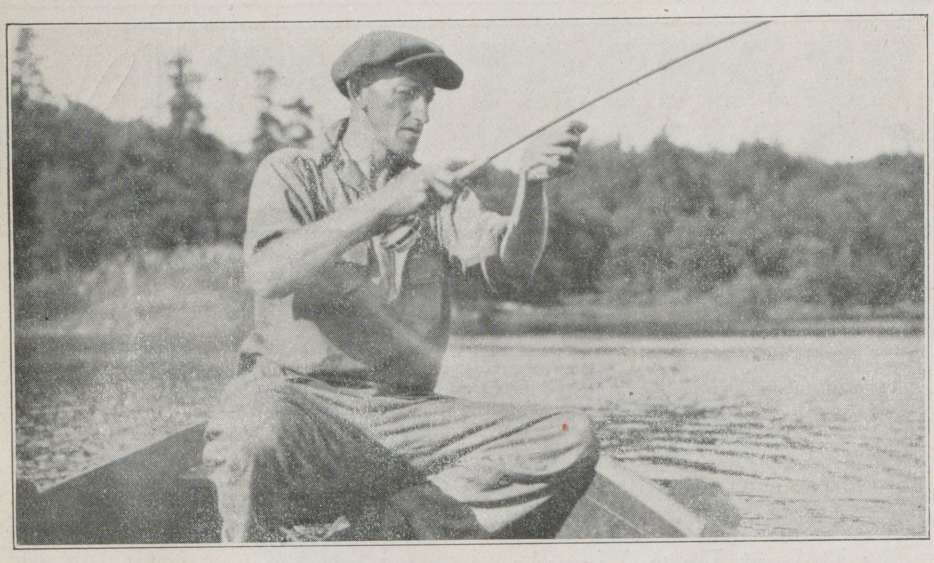
WHAT is the best season in which to go out for this or that fish is a question that is often put up to one thought to be an expert on fish and fishing; and if one season is better than another why is this so; what tackle shall be used; what time of the day is the best to look out for them —these and a number of other queries are bound to come toward an angling editor. This is a large bill to fill out with answers. Truth to tell, one volume would not quite explain it all, nor would two. There is always a new "slant" to the matter; there is always someone to raise the question and extend the list of queries. Probably it is by very reason of this that angling and the literature of angling is so profoundly interesting. Personally I make no odds about it in saying that I believe autumn to be the best season of the year for fishing, which dictum I apply to the bulk of the finny ones that inhabit our fresh waters. Surely in the North, autumn as a season for fishing has no equal. It is the red letter season indeed; fit to attract and concentrate the attention of anyone.

Save for the lake trout we may as well dismiss the stream trout from consideration in autumn fishing. Where they may be taken into the month of September some good sport is to be had; but summer for the stream trout should be sufficient without increasing the season by going into the autumn. As for the lake trout, however, some of the finest catches occur in the autumn, and I would feel prone to state that September is the likeliest month for them, bringing possibilities with it not otherwise met with. In the case of the small-mouthed and large-mouthed bass, and the pickerel, the pike and the muscallonge, surely no equal can be found to this season of changing leaves in which to troll or cast for them; they are then at their liveliest and afford many a tussle that the hot days of summer could not possibly afford.

What are the advantages of autumn fishing? In the first place the heats of summer, sometimes very uncomfortable, are dismissed; cool days come on; there is a tang and wine in the air; one feels naturally at his fittest; and is sure to appreciate a

Photograph, courtesy Canadian Pacific Railway

One of a myriad magnificent streams in the Canadian Rockies



Robert Page Lincoln in his favorite pastime of playing a small-mouth bass

trip all the more. But the most blessed elimination of all is the fact that the various insect pests have disappeared and with them has gone the need of wearing veils and porch netting around the hat; and the various dopes which one must smear himself with what time June is holding down the calendar. That in itself calls forth a piscatorial applause that is well merited.

The attraction of autumn fishing extends in two directions: a fishing trip can be combined with a hunting trip and thus two of our major sports become available. Ordinarily the average fisherman puts up his tackle at the close of the summer and does not go forth until another season of summer rolls around. There he makes his big mistake for he has probably failed to realize the height of his ambition during the hot weather months. With some, real active fishing begins about the tenth day of September and ends only when the ice is spearing out from the shores of the lake and the snow flurries are in the air. Some there are who brand summer fishing as a mighty exertion with nothing to show for the time spent; and will, in some instances, condemn the fish as being unfit to eat. They dub the fish as having soft flesh; that they are then unpalatable. A condition such as this, however, is more true of fishing regions south of the Canadian line, since most Canadian lakes are deep and being fed by cool streams and springs keep in good condition. In general, even on Canadian lakes it may be said that the autumn of the year is the best time of all.

Spawning Season Avoided:—Fishing in the spring and the early summer is sure to bring to net or gaff fish that are in a state of spawning. Aside from the fact that fish are then in what is scientifically termed an "unclean" state, and not highly prized as a food, it is also true that hundreds upon thousands of fish are destroyed by destroying females that are heavy with unlet eggs; in fact. I have seen large pike and muscallonge caught in the spawning season dripping with eggs—indeed ripe for letting them. There is no such an unsavory sight as this, and nothing that stirs a true angler to anger more. I am positively come to believe that no matter how men would fish the waters they would not deplete them; but those waters can very easily be depleted by exterminating the parent fishes at the time of spawning. Nature has shown some wisdom of an exceptional sort in guarding the fishes during the spawning run in that she sets that season aside as a time for fasting. While it is true that many fish will not seize a lure at that time, it is certain that while they are actually on the "nests," guarding their spawn from intruders, they will pounce upon any shape of lure that then is trolled across the sacred grounds. They do this, not believing the lure to be some food which they feel called upon to help themselves to, but merely to drive it away from the locality. The basses, both the small-mouthed bass and the large-mouthed bass, are particularly incensed at having a lure trolled through their spawning domains, and the viciousness with which they fall upon a lure that is trolled over their nests proves them valiant parents but can certainly give the angler no satisfaction, since he must know that the bass was not deceived and would fall

Photograph, courtesy Canadian Pacific Railway

A view of Bow River Falls, near Banff, Alberta

upon the lure in anger even though he knew it was an "engine" of destruction. In nine cases out of ten where inordinately good success at bass fishing occurs during the forepart of the summer season it may be ascribed to the fact that the spawning season has been delayed and spawning bass have been taken. Indeed, so many photographs of bass that have appeared in the outing publications have shown bass fat with spawn that one wonders the practice is not more generally known, and avoided. One would not think of killing a doe or any other animal bearing young. Why, then, should fish be killed so thoughtlessly during the spawning season without the knowledge of the injury done being carried home.

Spawning Over:—In normal seasons spawning is generally over with most fishes by the first of July, that is of course providing the season has not been a very backward and cold one. There are instances where bass have been noted spawning in July. In normal years, however, the spawning is then over.

The Hot Weather:—During hot weather the fish seek out the deep holes in the lakes and the streams; this is more true from the fifteenth of July on to the close of the summer. In August what is known as another period of fast occurs, when the fish will be very dull at rising to or hitting any lure that the fisherman may use. In the pike and the muscallonge a condition of "sore mouth" occurs; the sun-fishes and the croppies also are noted in this condition. At this season the large pike and muscallonge sulk and probably move around but little, hugging the bottom, waiting for the cooler days of autumn, at which time the sore mouth condition has disappeared. Some rather starved-looking muscallonge are caught in the month of August; some emaciated to a degree. The pike will show up jaws in which the fangs are loose, and the gums swollen and bleeding; the muscallonge even lose their teeth, and their jaws "sport" a new set of "ivories" when September rolls around. Naturally they then dispense with much weight; they are flabby; and are in an unpalatable state as pan-fish.

The Urge to Feed:—Probably the urge to feed with the pike and the muscallonge is never greater in their annual round than at the onset of autumn. They have faced two periods of unrest and fasting: (1) the period of reproduction, and (2) the period of sore-mouth condition. Autumn is their time of recovery when they must lay on flesh, steel their muscles and prepare for winter. This they prepare to do by seizing anything that looks as though it could be digested. So intense is this hunger call in them that they seem to be abroad at all hours, way into the dusk, moving up and down the shores. When you do catch a lively pike of ten, twelve or fifteen pounds about the fifteenth of September note the fierceness shining in its eyes. They have a devilish glint in them that expresses its character more clearly than anything else possibly could. You may have caught pike during the summer that did not fight "according to Hoyle," indeed may have disgusted you; but this is not true of the autumnal pike. They fight every inch of the way, and are as truly as one may wish to express it "game" fish to their last inch. The smaller pike and muscallonge may get in the way and play tag with the spoon in the summer, but in the autumn the large fellows

A typical scene in Northern Ontario

Photograph by F. V. Williams, London, Ont.

Photograph by F. V. Williams, London, Ont.

Noon-day lunch on Sand Lake, Metagama, Ont.

are busy and chase the small ones away so that they may have all the honor of being caught first.

Large Pike:—Autumn turns up more large pike, inch for inch and pound for pound, than at any other time of the year. One large pike or muscallonge is caught in the summer to ten in the autumn; the "last stand" that each one makes is stiffer, brisker, more tenacious at that season. See that you are provided with a twenty-pound test hard braided silk line, which, on a one hundred yard reel, you can do excellent casting with. Instead of using a large sized spoon do not go any higher than size 5. Indeed excellent success can be had using a number 3 spoon. Work inshore; try the bays; spots around sunken logs; the mouths of streams where minnows and other fish life, such as the pike feed upon, are found in abundance. In September try off of bars using a three or four inch perch (alive) as a lure on the hook. Use a gang hook at the end of a fourteen or sixteen inch gimp leader. Hook the perch somewhere on the breast lightly. Let the perch down and move here and there along the bar, letting the perch go where it will. Try with the perch lure around the mouths of streams in the same manner. Pike are generally savage fighters in the autumn. Upon capture give the fellow line and do not attempt to land him too soon.

Muscallonge:—Best hours in September, six to eight in the morning; three to dusk in the afternoon. Best hours in October, six to ten in the morning and three to dusk in the evening. The white-enamelled spoon best on dim days; on ordinary sunshiny days the nickel-plated spoon. At this season polish up a large-sized copper-colored spoon and try that; you will be surprised to know that it works well in the autumn. In September work the bars; in October the inshore waters and mouths of streams; inlets and outlets afford the better places. A five-inch live perch is none too large for the muscallonge that are abroad at this season of the year. It is rather a question whether you can get a perch too large for these autumnal pirates, since the perch is first on their daily bill of fare. Do not fail to try in ten feet of water off from points of land, peninsulas; try around islands and in the bays. If still-fishing with a perch, be sure that your hook is of the durable sort. Too many so-called "pickerel" hooks are soft, and many a large autumn pike and muscallonge has been lost through the hook straightening out. Look well to your leader and see to that it is strong enough; and see to that the connection between the wire leader and the hook is perfectly firm and will not come undone. Many a large fish has thus been lost. For both pike and muscallonge try using a sunfish for a lure—one three inches suggested. It need not be alive. Hook through belly and gently troll along, moving it here and there in choice places to make it appear as a sunfish alive but disabled. A pike-killer, indeed, at times. See that you use a large hook!

Bass:—Choicest time for bass in all the year. The wobbler minnow scores highest at this season. The white one with a red head is by far the best. The bass are feeding during the day hours now and do very little feeding in the night, which is the reverse from the summer conditions, when they lie idle during the day and feed heaviest from dusk on

Continued on page 60

British & Colonial Press Photograph

Canada's new Governor General, Baron Byng , of Vimy, is officially received in Montreal. From left to right in the group can be seen Baron Byng, Brig.-General C. J. Armstrong, Lady Byng, and His Worship, Mayor Martin

British & Colonial Press Photograph

A part of the British delegation to the Washington Disarmament Conference came by way of Quebec. Here we see, from left to right, Right Hon. A. J. Balfour, chief British delegate; Sir Maurice Hankey, chief of the cabinet secretariat; and Sir John Newell Gordon, representative of the Foreign Office. The other gentlemen are all attached to the Mission

British & Colonial Press Photograph

Rounding up the hounds for the first meet of the season at the Montreal Hunt Club, which was one of the most successful runs held in years

British & Colonial Press Photograph

Delegates to the annual meeting of the Society of Chemical Industry meet in Montreal. This was the first meeting of this famous British body in Canada, and attracted many distinguished scientists

British & Colonial Press Photograph

The funeral of the Hon. Lionel H. Clarke, late Lieutenant Governor of Ontario, is held at St. Paul's Cathedral, Toronto

British & Colonial Press Photograph

In anticipation of the momentous elections pending in Canada, prominent Liberals from every province foregather in Montreal, the occasion being a dinner to the distinguished Liberal veteran, Hon. Rodolphe Lemieux. From left to right, front row, are: the guest of the evening, Sir Lomer Gouin, the Liberal Leader, the Hon. W. L. Mackenzie King, and Mayor Mederic Martin; from left to right, rear row: Senator J. P. B. Casgrain, Hon. Charles Murphy, Senator R. Dandurand, Hon. Frank McCrea, and Premier L. A. Taschereau

Ships and Shipping

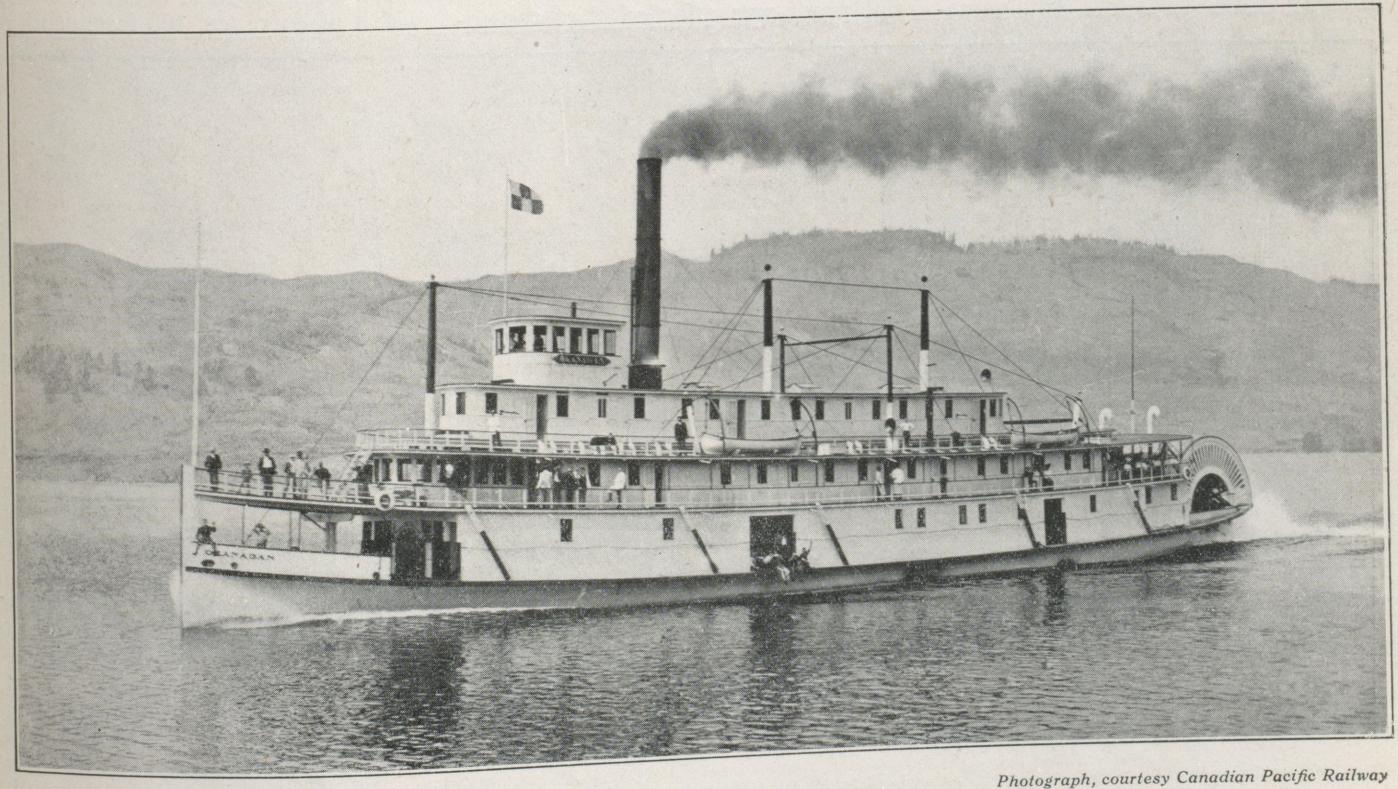
HOW Southampton owes her present prosperity to the many modern railway and other improvements that have been introduced since the War is interestingly told in the *Nautical Gazette*, New York, by A. Vernon Thomas, who says:

"From several points of view Southampton is one of the most interesting ports of the British Isles. It is, for instance, the outstanding example of a port developed by a railroad company for the sake of the passenger traffic commanded by a favorable location. Then it possesses the extraordinary phenomenon of four tides a day. The explanation of this natural endowment will be understood by a glance at the map. It will be seen that Southampton lies some six miles up Southampton Water and that opposite the end of this deep inlet stands the Isle of Wight. When a tide comes sweeping up the English Channel it sweeps up Southampton Water also, but when the ebb tide begins through the Channel and sweeps again past the Isle of Wight the flood is held in Southampton Water and cannot get out. The result is that two hours after every high tide in the English Channel it is high tide for a second time at Southampton. Thus Southampton has practically four hours of high tide every twenty-four hours.

"Some thirty odd years ago the fortunes of the Port of Southampton were at a low level. The first dock had been opened in 1843, though the place had been a port from time immemorial, with old-fashioned wharves. However, the tendency in the seventies and eighties of last century was for ships to take their cargoes as near as possible to the big industrial areas. Southampton was near no such areas, being 79 miles from London and much further from Britain's great manufacturing districts. Trade began seriously to leave the port and something of a crisis was reached in the late eighties, when the city definitely decided not to take over the docks or make the port improvements which further progress called for.

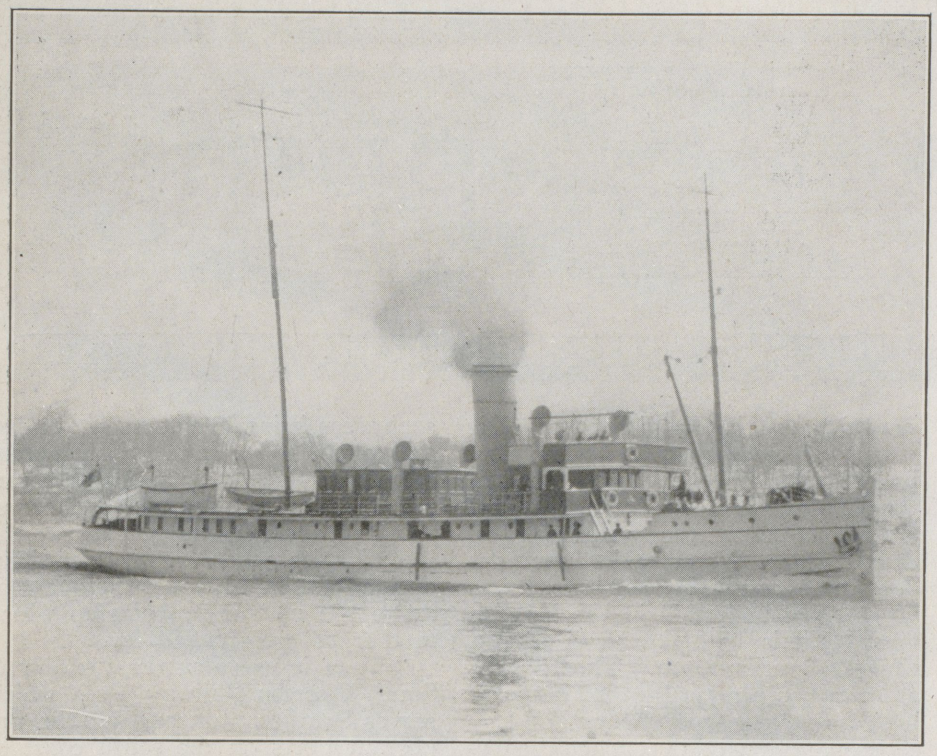
"Then it was that the London & South Western Railway Co., which serves Southampton and all the important ports on the south coast of England west of Southampton, came to the rescue. In 1892 the Railway Company purchased the dock estate from the Southampton Harbor Board and during the ensuing period of close on thirty years has spent, on an average, about a million dollars a year on port improvements.

"It is perhaps not generally appreciated to what an extent railway con-



Photograph, courtesy Canadian Pacific Railway

The S.S. "Okanagan," one of the stern-wheelers which maintain a regular service on the Okanagan Lakes of British Columbia



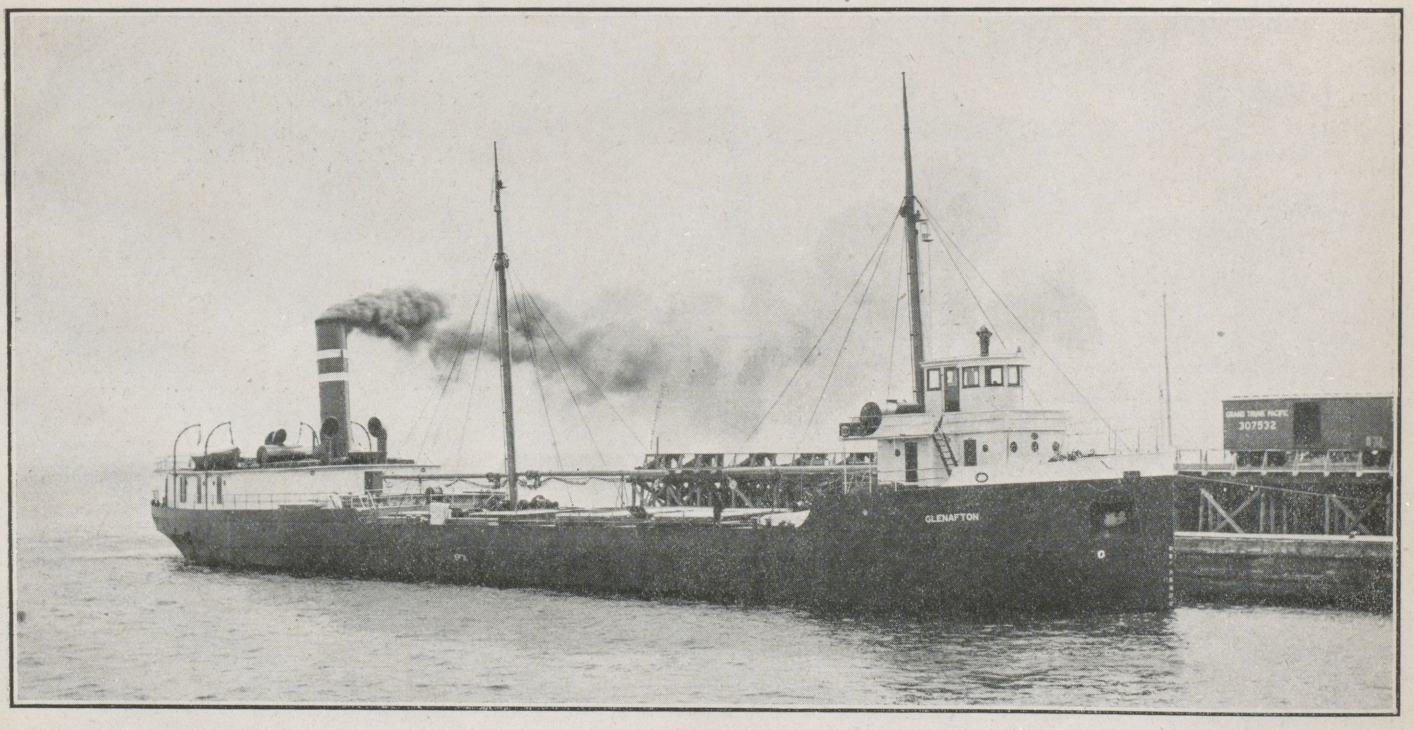
British & Colonial Press Photograph

The ice breaker "Lady Grey" broke the 70-year record for the opening of navigation last season by opening the Port of Montreal to navigation on March the 29th. This year the stanch little vessel will try and establish a record for the lateness of closing of navigation

trol is exercised over marine terminal facilities in Great Britain. While Southampton, and Hull and Immingham on the Humber, are the outstanding examples of railway ports, there are many others. During the sittings of the parliamentary Committee on Railway Agreements and Amalgamations, in 1910, a list was acquired containing the names of no less than 72 docks, harbors, piers, wharves and quays, either owned, worked, leased or controlled by British railway companies. Many of the enterprises were admittedly small, but substantial proof was afforded that the influence of the railway companies over the foreign and coastwise trade of Britain was increasing and had obtained considerable dimensions.

"While there may have been times when Southampton felt it a little irksome to be dominated by one railway company, and while it may often have sighed for competition, it is but fair to say that the London & South Western Railway Company has given the port efficient service and has been the big factor in building it up to its present proportions. Southampton is now established beyond all probable rivalry as the express passenger port between Great Britain and the United States.

"When released from their war-time service, the 'Aquitania' and the 'Olympic,' the two largest British-built ships, were placed on this express ferry between Southampton and New York. These two vessels, as well as the 'Mauretania' and the ex-German 'Berengaria' have all been in the big dock at Southampton at one and the same time, forming a unique spectacle. By the way, this dock is, from long usage by the White Star Line, called the White Star Dock. The name, of course, is not exactly relished by the Cunard Company, whose big liners are also obliged to use it. Particulars of the White Star Dock, which is the largest and deepest at Southampton, are as follows: water area, 16 acres; length of quayage, 3,800 feet; length of dock, 1,600 feet; width of entrance, 400 feet; depth of



The 3,000-ton Lake freighter "Glenafton," recently completed for the Glen Transportation Company, Midland, Ont., at the plant of the Port Arthur Shipbuilding Company, Port Arthur, Ont.

Photograph by S. J. Hayward

A general view of the drydocks and fitting-out berths of the Collingwood Shipbuilding Company, Collingwood, Ont.

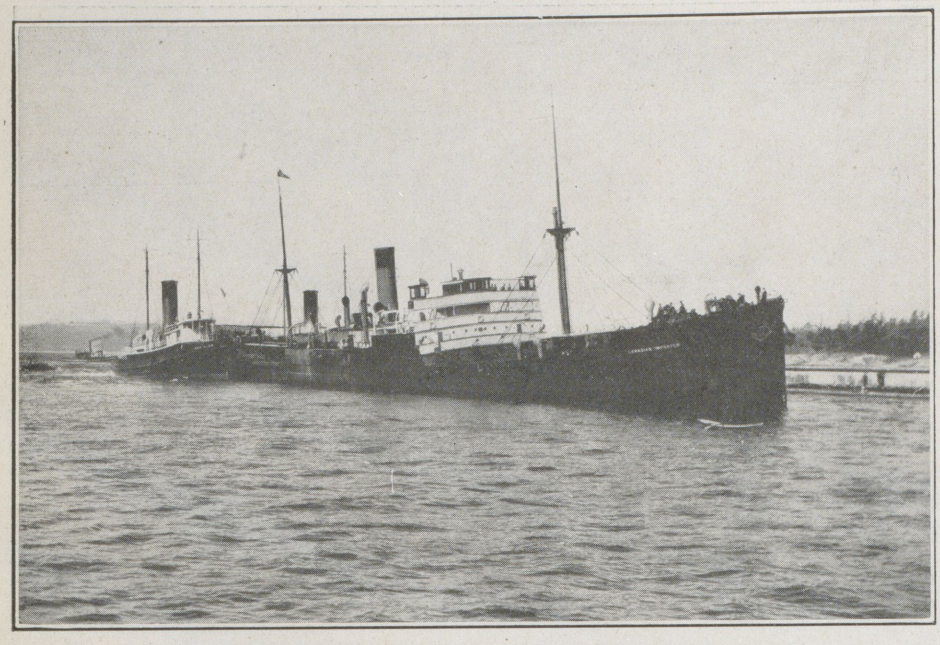
high water, ordinary spring tides, 53 feet; depth at low water, ordinary spring tides, 40 feet.

"While the Southampton docks are, as stated, owned by the L. & S. W. Railway, the work of dredging, buoying, lighting and collecting dues is undertaken by the Southampton Harbor Board. This body is composed of 26 members, representing a large number of different interests. The city council of Southampton has seven members; owners of foreign-going vessels, four; the L. & S. W. R. Co., three; owners of coasting vessels and the Southampton Chamber of Commerce, two each. Several other interests have one member each, including the Admiralty and the War Office.

"It should have stated that the London & South Western Railway Co. has itself a considerable fleet of vessels. These are chiefly passenger boats plying to the Isle of Wight, the Channel Islands and the south coast pleasure resorts. The company also owns five cargo boats.

"When the writer recently strolled around the Southampton docks it seemed to him as if he were wandering about a huge railroad yard rather than inspecting a steamship terminal. Tracks were everywhere, and everywhere, too, little shunting engines were as busy as bees. A plan of these docks shows railroad tracks like a nervous system encircling every building and expanding from time to time into classification yards, sidings, etc. Nor is it freight traffic alone which is handled here, right on the waterfront. The Cunard and White Star boat-trains come right on to the dock and discharge their passengers a few feet from the vessel's side. These boat-trains, it may be remarked *en passant*, are spectacular affairs. The hustle and bustle at Waterloo, the big London terminus of the London & South Western Railway Co., before the departure of one of these trains, is one of London's not least interesting sights. The run to Southampton is done in a little less than two hours.

"At the time of the writer's visit the great bulk of the 'Berengaria' undergoing minor repairs, could be seen broadside on in the White Star Dock. Opposite it was the 'Adriatic,' while in the adjoining Trafalgar Dock the ex-German liner 'Berlin,' now the 'Arabic,' was laid up. Beyond the 'Adriatic' were the 'Kinfauns Castle' and the 'Balmoral Castle,' two large liners of the Union-Castle Company. The latter was being coaled by baskets from barges on either side of the ship. The hoisting power was derived from a kind of box-car on the quay. It seemed a crude and dirty process and one could hardly believe it would



Photograph by J. B. H. Holdcraft

The "Canadian Importer" safely reaches Vancouver after having been adrift in the Pacific for nearly a month

survive much longer. In Southampton Water were a long string of Union-Castle liners riding at anchor, testifying to the general slump in shipping.

"In one of the large freight sheds was noticed a consignment of boxes bearing the legend Czecho-Slovakia. On inquiry they were found to contain sugar and had reached Southampton via Hamburg. There must have been hundreds of tons in the consignment. The 'Kangaroo,' a large vessel with its home port at Freemantle, West Australia, was in the docks and not far away rose the Royal Mail steamer 'Almanzora,' looking spick and span in a fresh coat of paint. Across the River Itchen, which bounds the docks on the east, one gains a view of the finely situated Netley Hospital, one of the important institutions of the British army.

"Space does not permit a due description of Southampton's shipbuilding yards. It may be said, however, that Harland & Wolff built a repair yard at the port in 1907 and have considerably added to it since. This firm does the Southampton jobs of the White Star Line on the west side of the port, while John I. Thornycroft & Co., Ltd., do the work for the Cunard Company on the east side."

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In the presence of a number of Japanese naval officers and officials of the United States Navy, the keel of the fuel supply ship "Kamoi" for the Japanese Navy was laid at the plant of the New York Shipbuilding Corporation at Camden, N. J. Named for a mountain in the Province of Hidakia, Japan, meaning "dignity of God," the "Kamoi" will be 500 feet long and have a deadweight tonnage of 13,000 tons. The contract calls for a speed of fifteen knots an hour.

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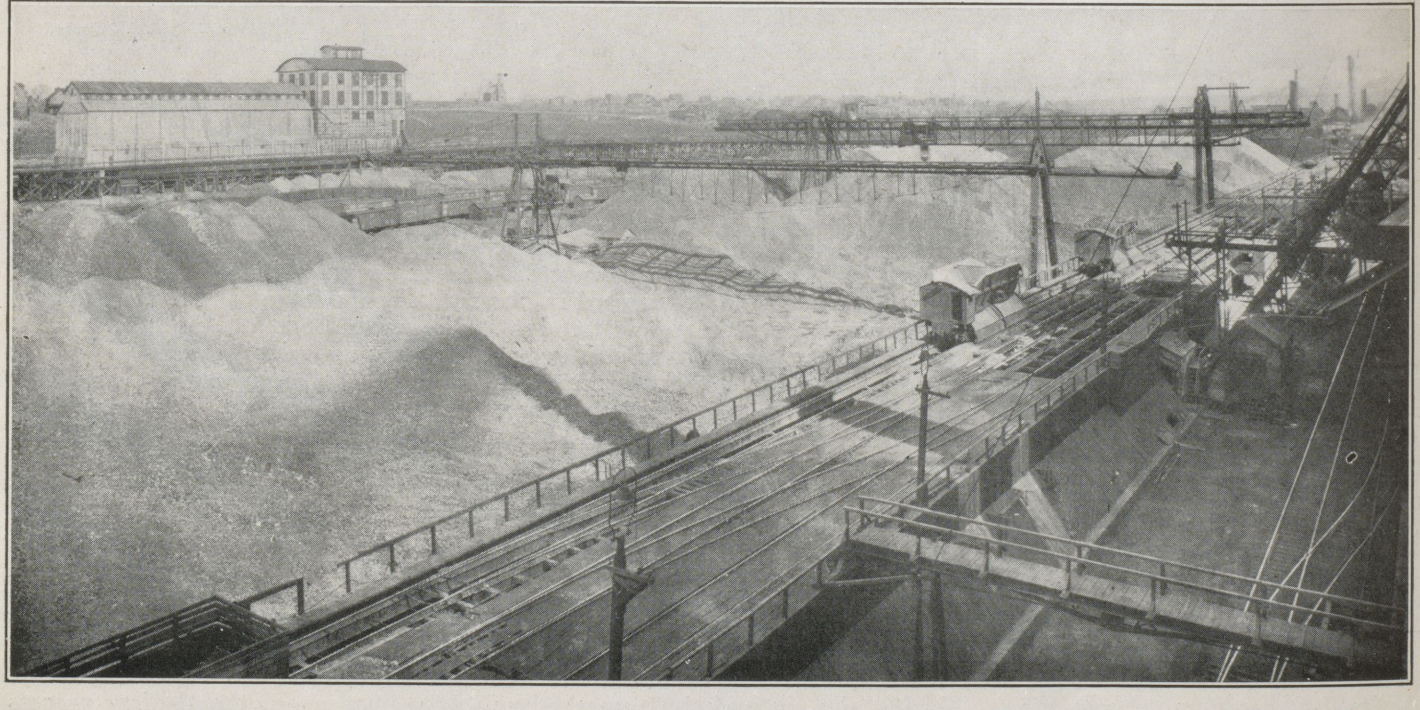
Statements of very great importance regarding the future of wireless telegraphy were made at the annual general meeting of the Marconi's Wireless Telegraph Company by Senator Marconi, who presided. As is well known, large sums are expended by the Company every year in research work, and though the outlay involved may be regarded by some shareholders as unproductive expenditure, it was made quite clear by Mr. Marconi that this is far from being the case. There have been since the days



Photograph by S. J. Hayward, Montreal

A general view of the ore storage piles showing ore bridges and method of unloading of ore from cars

when wireless telegraphy became a practical proposition, two serious obstacles to its free and untrammelled employment. The first of these has been the disturbance occasioned by the "butting in" of other stations; and the second that bane of the operator—"atmospherics" or "X's." The elimination of these hindrances to unhampered communication is a matter of the highest moment, and it is unquestionable that if technical investigations could solve the problem the cost involved would be a comparatively minor consideration. We now learn on the authority of Mr. Marconi that the work of the Company's engineers, together with a proper choice of wave lengths, has enabled them to dispose of the difficulties connected with the interference of other stations. But, far more important, it now seems clear that the disturbing influence of "atmospherics" has been virtually overcome. They, more than anything else, have been responsible for the limitation of the Marconi Company's abilities to extend its present services, and, as Mr. Marconi said, from the moment this problem is solved the earning power of the Company will be greatly enhanced, while, it may be added, the requirements of the commercial world will be still more efficiently catered for. Many clever brains have concentrated for years past on this subject without apparent avail, but it now transpires that the technical staff of the Marconi Company, with the powerful aid of Mr. Marconi—who, we may remind our readers, has been carrying out a number of important experiments in his yacht Elettra—have succeeded in triumphing over the difficulties involved. "The results obtained during the last few weeks," said the chairman of the Marconi Company, "by the combination of various devices and inventions, are of signal importance, and I now believe that, if we have not completely mastered the troubles arising from adverse atmospheric conditions, we have gone far enough to tell you that this work is of transcendental importance and epoch-making in the conduct of wireless throughout the world." He explained that the new arrangements not only enable communication to be carried on under conditions which previously made it impossible, but also allow of a very considerable increase in speed and improvement in accuracy. If coincident with this material achievement the Company can succeed in freeing itself from the vexatious limitations imposed by the Post Office —which is notoriously none too friendly disposed towards it—a great increase may be looked for in the facilities which the Company is able to offer the public. Mr. Marconi and his colleagues have also placed the business world under a heavy debt on account of the energetic steps they are taking to make wireless telephony one of the commonplaces of everyday existence. Considerable progress, it was stated, has taken place in this connection both as regards long and short distances, and no doubt is entertained by Mr. Marconi that this method of communication may be profitably utilized at once as a practical and reliable system between a great number of places, besides for communication with ships at sea. Most of the technical and mechanical difficulties have been surmounted and the Company foresee in this direction the possibility of a very large business, both public and private, in all parts of the world.

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The former North German Lloyd steamship "Berlin" acquired by the White Star Line left Southampton for New York on September 7 as the "Arabic," on her first transatlantic voyage since the War.

As the "Berlin," the steamship formerly was well known to American travelers, and in the war was fitted out as a mine layer and sent cruising in the waters north of the British islands. She planted a mine field which caused the destruction of the British battleship "Audacious" and was chased into a Norwegian port where she was dismantled and interned.

The steamship has been entirely refitted and will be put into the New York-Mediterranean service by the White Star line. The old "Arabic," for which she has been renamed, was sunk in 1915 by a submarine.

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A decision has been reached by the Shipping Board to rescind the order permitting masters of Government-owned vessels to take their wives on voyages, as there is no longer a dearth of skippers, which caused the Board to make this inducement.

Photograph by S. J. Hayward

More ships have visited the Port of Montreal this year than ever before

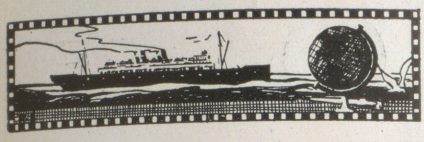
Convention of The Society of Chemical Industry

Continued from page 13

qualified as that of chemistry to direct legislation along effective, economic lines. In Canada and England we have rather ineffectually attempted to reach the heads of governments by convincing arguments and facts, let us reach them through the electors.

"Dr. Herty, by his well-organized Chemical News Service of the American Chemical Society, is accomplishing a great work on this continent for our science through the press, by supplying interesting, popular, but exact information emphasizing the national importance of chemistry. Should we not take similar steps to obtain in Canada a more complete recognition of the value of chemistry in the development of the industries of the country? I am fully convinced that we can secure the assistance of the daily press of Canada. To interest the public press it may be necessary to establish and maintain an official news service, analogous to the Chemical Society News Service of the United States. The united action of the three chemical organizations of Canada, viz., the Society of Chemical Industry, the Institute of Chemistry and the Committee of Chemists associated with the Research Council, would enable us, with some financial assistance from the Research Council, to attain this most desirable object.

"A representative congress of chemists, such as the one now in session, emphasizes not only the imperial, but also the international, character of the Society of Chemical Industry. I am sure I am voicing the sincere wishes of the chemists of Great Britain when I express the hope that both Canada and the United States will be strongly represented at the next Annual General Meeting of the Society to be held in Glasgow. It seems important that we, who are interested in chemistry and its applications to industry, should acquire the habit of attending the annual gatherings of chemists on both sides of the Atlantic. Such a reciprocal attendance at meetings by large numbers of chemists would tend to eliminate any possible misunderstandings, would enable our



outlook on science to become a broader one, and our common interest in chemical science would add another bond to those of a common language and a common national origin to link us all more closely together.

"The effect of this meeting on Canada will be, I am convinced, far-reaching in its influence; it will not only stimulate interest in our science throughout the country, but will, by bringing the officers and members of the Canadian Sections into personal relations with the Executive of the Society, harmonize and unify the aims and ideals of the new and scattered Canadian Sections with the older ones in England and Scotland.

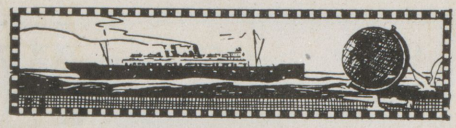
"The directors of industry in Canada will, by this meeting and our tour through Ontario and Quebec, be reminded of the existence of an imperial organization whose efforts are directed towards the application of science to the business of their lives.

"Canada is as yet not much advanced beyond the pioneer stage of industrial development. Our natural resources are great, but we have not more than touched the fringe of opportunity in their utilization.

"Your voyage to Canada, Mr. President and chemists of England, will have its highest fruition if this occasion, and your choice of a Canadian President, lead to the further introduction of scientific method in our industries, for if Canada is to obtain full value from her natural resources and natural advantages, the footings of her industries must be established on the bed rock of sound principles and scientific organization."

One of the notable deliverances of the Convention was the banquet speech of Dr. W. H. Nichols, President of the Allied Dye and Chemical Corporation, and a former president of the Society.

"There is some appropriateness in my representing American sections here at this time, for I feel very much at home in Canada," said Dr. Nichols. "Though my friend, Mr. Garland, has been so taken by a ten days visit, what do you suppose I feel after 38 years visit in Canada? During 25 of which I have spent a quarter of my time within your delightful borders pursuing a work of science which nobody here has referred to, and which I consider one of the most delightful in the Dominion, the pursuit of the black



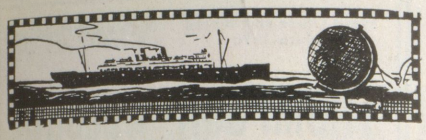
bass. And I may say it has not been without success, with due regard I may say to the game laws.

"The American section is very proud of its connection with the mother society. I was present at the birth of the American section, and was therefore one of the original members.

"I was also present at the birth of the American Chemical Society a little before that time, and it is food for reflection that a man as young as I feel, whatever I may look, is the gentleman who made on that memorable occasion—there are only two living, one of them our dear friend Dr. Chandler, 85 years old, and I was the humble second, naturalby being a very youthful person at that time, but always very proud of my connection with the birth of that magnificent organization.

"The honor which was conferred upon me when I was made president of this society, I consider, and have always considered as one of the greatest honors which have ever fallen to my lot, particularly to come from a country so full of material as England. To look in our little young country for a president was indeed extremely flattering, and I cannot tell you how delighted I am with the wisdom and broad statesmanship which has brought you here to Montreal, to recognize the position to which Canada is entitled in the crown of the British Empire, and to have made one of your distinguished members the president for the year to come.

"Reference has been made through a very thoughtful and long prepared address by Dr. Herty this afternoon, to the necessity of propaganda of our science among the people, but I want to warn you how you proceed with your propaganda. During the years some of the names applied to chemical compounds have reached rather long limits, and as the years progress and these names become longer and longer so that it is possible that the name of a simple compound may take a whole page of printed book,—you should be careful that you do not make the impression on the victim of your propaganda that was made on a good Irish friend who, having heard of the illness of a friend he said, 'Pat is awful bad. They are going to



take every bit of the latin part of his bowels.'

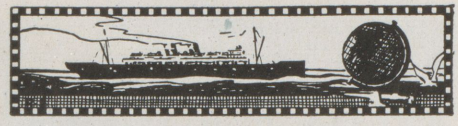
"But the idea of propaganda embodying the very subtle and insidious methods of one of our recent antagonists is very important. The science of chemistry lies at the foundation of the future prosperity of the world, the world does not know it, it don't appreciate it, but it must be made to know and appreciate it.

"We hear a great deal about research. How are we going to get anywhere with research? Research, like the latin part to which the Irishman alluded, has to be done with a little care. Just the ordinary idea of going out somewhere and making a research is not sufficient. You have got to have something in view.

"I could illustrate this very well in the line of hotel feeding. In a little hotel I once said to the proprietor, 'How is it that your beefsteak is uniformly so utterly uneatable?' He said, 'I take every care, I could not do more. I take fresh killed beef, cut off the rump, pound it well, fry it in good lard, what more could I do?' That is no exaggeration of some of the researches I have seen. Yet the future of the world depends on research.

"We know very little of chemistry now. Some of the gentlemen at this table are as far advanced as anybody in the world along certain lines they have chosen. Yet they know nearly nothing about it. What has the future in store for chemistry? In thousands of years, if we are permitted to live or our descendants, it is to go on growing and growing. How is it to be done? By research. Who are going to make the researches? The chemists. Where do the chemists come from? From the schools and colleges. Who teaches the chemists? The professors, that noble body of men who have made sacrifices for which they are entitled to the greatest thanks.

"But who are going to succeed them? That is a problem on which depends the future of your country, and mine. In its present condition, with the present situation, the present finished opportunities, it cannot improve. It must go the other way. How are we going to improve it? That is a question which must be settled. We have got before us the



fight of our lives. We are building to-day with the proper materials, with the proper breastworks; we are building so that we will not fear by and by the assault of any combination of chemists in the world. But we must have a chance to consolidate our position. Some of us have made sacrifices beyond what any of you would suspect in the effort to bring to this country a complete industrial forward movement, and we have to some extent succeeded. We know that there is room for greater success, but we do not want to be jumped on just as we are beginning, and have it taken away from us before we have a chance to prove that we are able to lead the position instead of following.

"I do not know how you are fixed in England, except that I know you have an impassable barrier to keep out the enemy. If we do not have it, we cannot succeed; in spite of the millions of tons and hundreds of millions of dollars expended we cannot succeed if we do not have it. With all due regard for our friends overseas, we will lead the world in organic chemistry, if we do. The progress which has been made by the 82 different institutions that have been working on these lines has been magnificent. They are turning out more than 300 different dyes. They are turning out large quantities of the most essential ones. Give us time, and the Anglo-Saxon chemist will be shown to be the equal, and with his imagination, ingenuity, the superior, of any of the chemists of the world. In fact I feel absolute assurance of this. I have no fear if only we are permitted long enough time to consolidate our position."

★ ★

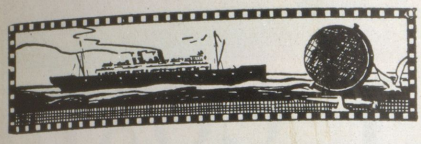
Luck

Continued from page 18

of; a good boat, too. Take a holiday; I'll send for you when I want you. And, by the way, there are some letters here for you. Have you heard the latest news about that girl of yours?"

"I haven't heard from home since I left Southampton."

"Well, I had a letter from my wife this morning. She's living near your mother's home. She tells me the doctors took a small sliver of steel out of the head of your girl three days ago, and that she will be up and about in no time."



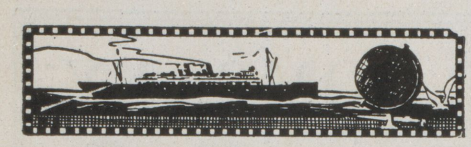
Notes From Beyond the Rockies.

Continued from page 25

city in regard to the rapidly-extending markets touching on the Pacific Ocean.

British Columbia is squaring away for an era of steady development and commercial and industrial expansion. Following the unusual activity created during the war in the demand for ships, lumber of many kinds, food products and different minerals such as copper and zinc, there was a feverish prosperity for at least eighteen months after the armistice was signed. Then the depression set in and falling prices. In consequence of the closing down of many sawmills, logging camps and mines there was much unemployment during the past winter and thousands of idle men flocked from the interior and up the coast into the cities. The lumber yards were piled high with merchantable timber lacking a market, copper was away down in price and merchants were caught on the ebb of high prices with stocks which could only be reduced to reasonable dimensions by heroic cuts to below cost. With the coming of spring, a more optimistic feeling has become manifest. Labor is displaying a reasonable spirit, recognizing that the prevailing wage scales are one of the chief deterrents against a speedy renewal of industry and business on a normal scale. If British Columbia is to compete successfully against foreign competition, her minerals, her lumber and other exports must be produced as cheaply as anywhere else. Labor must contribute its share to this object, and in view of the falling cost of commodities of all kinds the actual sacrifice need not be felt seriously.

A note of sane optimism was sounded at the recent annual meeting of the Vancouver Board of Trade when the retiring president declared: "Vancouver and British Columbia need have no fear of the future. The potential wealth of the province is so great, and the opportunities for safe and sound investment so many, it seems to me that if we exercise a greater degree of foresight and caution we need fear no repetition of the depression periods which we have



gone through in past years." He quoted a few illuminating figures in regard to the timber wealth alone. British Columbia has 350,000,000,000 feet of standing timber and the present output is about 2,000,000,000 feet a year. The total forest production during 1920 was valued at $92,628,807. The value of the pulp and paper produced last year was $21,611,681.

The British Columbia Legislature was prorogued recently after eight strenuous weeks of work. Outside of the drafting of the new Liquor Act comparatively little important legislation was produced. The budget address of the Minister of Finance showed that the province is steadily improving its financial position, in spite of the enormous demands for more assistance from every quarter. Further steps were taken to strengthen the laws for the protection of the small investor from fake promotion schemes of all kinds. Three Acts were passed in this connection. They concern the registration of land titles, the regulation of trust companies and the promotion of new companies. The Attorney General, Mr. Farris, declined to agree to the introduction of what are known as "blue sky" laws for the curbing of illicit company promotions, but he did insert clauses which ensure that the credulous investor will be given some kind of chance of not losing all his money. Legislation of this kind was badly needed. British Columbia earned a bad name before the war because of the many ill-starred enterprises which were loaded on the poor public. The failure of the Bank of Vancouver and the collapse of the Dominion Trust Company were only two of the failures which involved many persons in financial ruin. British Columbia is cleaning house and henceforth the outside investor will be given a fair show.

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The Triple Celebration at Annapolis Royal

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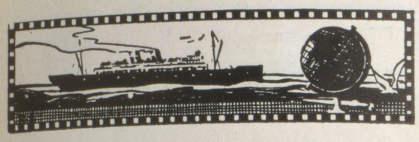
martial law alone prevails here, hinders settlers from coming into the country." Accordingly at a meeting held at His Excellency's house in His Majesty's Garrison of An-



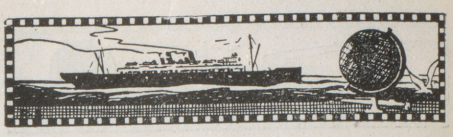
napolis Royal upon Thursday. the 20th April, 1721, it was agreed and ordered, "that for reasons aforesaid His Excellency the Governor and Members of His Majesty's Council for this Province hold and keep a Court of Judicature for the said Province annually at the respective times and place here mentioned, viz., at Annapolis Royal upon the first Tuesday in May and August, November and February, yearly and in every year from time to time, which court to have the same style and cognizance of all matters and pleas brought before them, and power to give judgment and award—execution thereupon by the same manner of proceedings as the General Court, so called, of Governor and Council has in Virginia and practices at this time." This unique and historic event was now commemorated in the presentation by Hon. Chief Justice Harris and Hon. Sir James A. M. Aikens, President of the Canadian Bar Association on behalf of the legal profession, of the second tablet—covered by a Union Flag of the time of George I given by the Historical Landmarks Society of Canada—and reading as follows:—

"This tablet, placed here by the Bench and Bar of Canada, A.D. 1921, marks the two hundredth anniversary of the establishment and sitting (in this Fort) A.D. 1721, of the first Court Administering English Common Law within what is now the Dominion of Canada. 'Law Hateth Wrong.' Wingate Maxims No. 146."

The third tablet, covered with a modern silk Union Jack from a collateral descendant of Sam Slick, was presented by the Vice-President of the Historical Association of Annapolis, and when also unveiled by the Lieut.-Governor, disclosed the following inscription:—

"This tablet, erected A.D. 1921, under the auspices of the Historical Association of Annapolis Royal, commemorates the one hundredth anniversary of the arrival in this town of Thomas Chandler Haliburton, who lived here eight years and began in this place his great career in Law, Literature and Public Life."

This distinguished son of Nova Scotia, renowned not only as an historian but as a member of the Judiciary and House of Assembly, is even more widely known as the



creator of the inimitable 'Sam Slick', with which character his name is now practically synonymous, and the house in which he wrote the greater part of the first history of his native province may still be seen near the Fort. After speeches from the Hon. F. B. McCurdy and Mr. L. M. Fortier, accepting the tablets respectively on behalf of the Dominion Government and the Dominion Parks Commission, the assemblage adjourned to enjoy the pleasures and relaxation of afternoon tea kindly provided by the Fort Anne Chapter of the I.O.D.E.

In addition to the attractions of a Band Concert in the Fort, an appreciative audience gathered in the evening at the Bijou Theatre to hear most instructive, erudite and historical papers prepared by Colonel Alexander Fraser, LL.D., on "The Royal Charter of Sir William Alexander"; Dr. J. Murray Clark, K.C., on "The Relations of the British Dominion of Virginia with the Dominion of Canada"; Dr. Chas. Morse, D.C.L., K.C., on "The Courts and the Commonwealth"; and John Irvin, Esq., K.C., on "A Philosophic Examination of the Spirit of Nova Scotia's First Criminal Laws," and the day's proceedings closed with the usual votes of thanks, special tributes of gratitude being paid to Mr. Justice Chisholm, Chairman, and Mr. L. M. Fortier, President of the Historical Association of Annapolis Royal, whose untiring efforts had made the celebration such a very conspicuous success.

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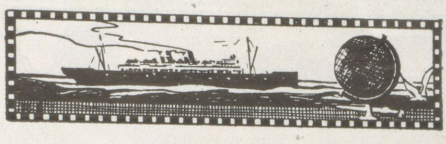
Notes from the Canadian Capital

Continued from page 34

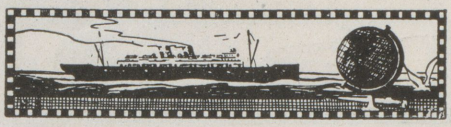
it is the first election since ten years to be fought on purely domestic issues. The 1917 campaign was essentially on those questions which arose out of the war—then at its gravest stage. While it is argued that the mandate at that time was not restricted, it cannot be questioned that the dominant theme in the public mind was the war and how best to carry on our part in it. To-day the war is happily over and we turn back to the road of purely national concerns. The election will be conducted under the provisions of a new Franchise



Act extensively different from that which prevailed in 1917. In electoral qualifications the alterations are numerous, but the most conspicuousof all is the conferring of the franchise upon women in general. While the female members of soldiers' families were able to vote last time, the number is enormously increased now. Some authority has figured out that, in this election, there will be more women voters than men. The potentiality of all this it is impossible to exaggerate. It is a new condition, a new force to be reckoned with, and one of such tremendous magnitude as makes difficult a calculation of the probable effect. Normally, it might be said the wife's opinion and vote will be the same as the husband's, and the daughter's the same as the son s, but not necessarily so. In any event, there is a great and ever increasing army of female workers, earning their own livelihood and detached from family influences. They are thinking for themselves, and, mid all the tidal currents and agitations and new schools and new ideas and new theories, estimates or prophecies of their alignment may, readily, prove fallacious.

The campaign is long drawn out, and no one has reason to complain of lack of time for the discussion and consideration of the issues presented to the people with all the force that party organization can generate. We may tolerate the extravaganza and even the local bitterness if they arouse the populace from the inertia of indifference. No one need be classed as a pessimist who sees in the national situation elements of serious gravity. We will come through all right in the end, but the onerous obligations of the war, the ominous deficits of the National Railways and the fluctations of trade and economic adjustment will present, for some time to come, problems whose weight no thinking man will under-estimate. Their solution calls for the most serious thought of the best minds in the country, and, upon the result, much of our future prosperity may be dependent.

The election will afford all parties, the new as well as the old, the sought-for opportunity of testing their strength and finding expression for those views entertained with a vigorous fidelity. We will hear of national issues and of local issues, but let it be



hoped that this time, in the interest of a broad, Canadian citizenship, we may be spared the humiliation of appeals to racial and credal prejudice. And when the tumult and shouting cease and the smoke clears away from the field of battle let us trust that, whatever party be ascendant, it may, by itself or by means of alliance, be endowed with the genius of government and the capacity of giving national leadership and direction in problems inseparably involved with the prosperity, the progress, the fecund future of the country.

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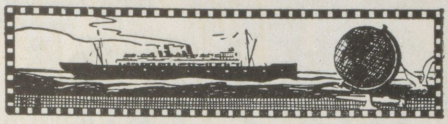
Autumn On The Waters

Continued from page 38

to midnight. Bass are great rovers in the autumn, and for that reason they may be found most anywhere; but one thing is certain—they are in the inshore waters. Days when the waters are glassy and the sun shining very bright will bring no luck; when the day is partly dim with a riffle on the water the best. Even large-mouth bass are caught on the spinner-and-fly combination in the autumn, and as for the small-mouth bass they rise the best during the whole year to this combination. Work the rocks along the shore for small mouths, casting very nearly up to the shore. If fishing around inlets and in bays off of bars in September try silvery minnows, and as a tempter for the small-mouth try the freshwater crab, procurable by turning the rocks in a creek. Do not drive hook through hard shell but connect the crab to the hook by means of a rubber binder. Make a harness for it, so to speak. If you strike the right spot the crab is an unfailing lure, especially for the small-mouths. Try the deep pools of the small-mouth rivers in this way.

The Lake Trout:—During the hot weather they have been tarrying in the deepest holes in the lake, ever in quest of cool or cold water, true to a charr characteristic. As the autumn comes on they again move into the shallows and may be caught in from ten to twenty feet of water, sometimes are seen with the naked eye near to shore. May be trolled for with a minnow (not alive). No



spoon equal to the so-called wobbling or darting spoon for capturing the lake trout. This is an old type of spoon, either having the hook or gang welded to the spoon and with the swivel connected directly to the spoon, too. When this is trolled in the water it does not go in one regular direction as does the regulation spoon, which revolves on a shaft, but takes to dipping and diving and quartering in an erratic manner that is supposed to imitate the actions of a small fish that is hurt; and which it does to a likely degree. For use in the capture of the lake trout in the autumn this spoon, I believe, cannot be equalled, They are then in the striking mood, and many a fine one may be garnered in if good grounds are located.

The lake trout may often be taken at any time of the day in the autumn, but the morning hours are the best, even better than the afternoon. At times if good grounds (where they are found schooling) is located, it is a good idea to go after them gently rowing along, using a large-sized minnow, alive on the hook, as a lure. Try off some rocky ledge or in some bay tucked in from sight. They often seek the bay water and at times the fishing is exceptionally good.

Wall-Eyed Pike:—These pike-perches prove at their best at striking the lure in the autumn. Elsewhere, previous to this we have considered the fishing for the wall-eyed pike, or perch. They work around here and there in schools. In the rivers seek them around the points of bars and off of islands. If a particularly good spot is located, that seems to be a stationary "hang-out," still-fish for them, using a live minnow, creek-chub, shiner or young sucker minnow. A white wobbler minnow will often bring to net many a good-sized wall-eyed pike in the autumn. If they run deep off of the bars, try attaching a suitable sinker ahead of the wobbler minnow to get it down to their level. There are times when an artificial minnow proves the best lure that can be used on this splendid perch. In the St. Lawrence river the regulation spoon-hook of the Skinner type (number 5 size) has proved very tempting. There are even times in the autumn, on choice days, when the wall-eyed pike are feeding far inshore, when

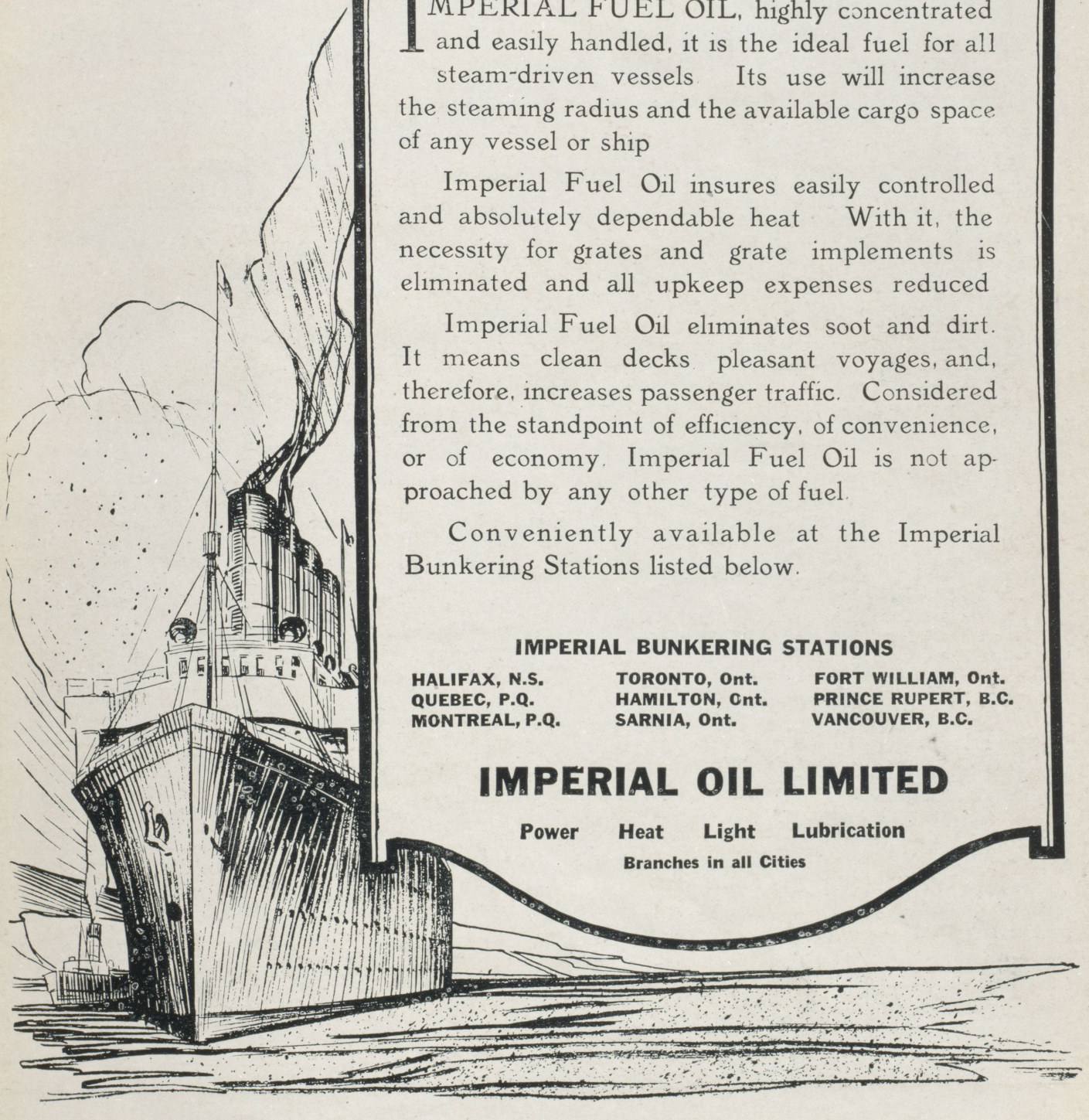
they may be taken on the large size bass fly with a small spinner up ahead of it. If fly-fishing in early October, be sure to get the fly down to the level of the fish. Salmon flies may also be used, and owing to their large size there is no necessity of using them in collaboration with a spinner. Records of wall-eyed pike taken in the spring, summer and autumn show far larger specimens caught in the autumn. It is during this season, by the way, that the eight and ten pounders of this remarkable Canadian perch may be captured.

The wall-eyed pike may be captured into the cold weather of November. I have had good success at this branch of fishing when the line stiffened from cold in the hand.

Sunfishes, Croppies and Rock Bass:—Of these species the southernmost spots along the Canadian border boast of an abundance; this is particularly true of the Great Lakes region. I cannot say that I have ever had any success fishing for these three species in the autumn with the artificial fly. Live minnows prove unfailing for the croppies; those of the two inch length, shiners or chubs preferred. It will be found that the sunfishes will take better on grasshoppers in the autumn than on any other lure. In fishing for them attach a bare hook to a spinner shaft; the spinner should be the number 0 or number 1 size. The glitter attracts them in the grasshopper does the rest.

For Pike and Muscallonge:—I prefer a steel rod to any other make, solid wood or bamboo, for trolling and casting for pike and muscallonge when big fellows are expected to get on. See that you have a wire or twisted gimp leader of at least fourteen or sixteen inches. In my way of thinking, a sixteen inch wire leader to which the lure is to be connected is none too long. If one of these savage fish (and savage, surely, they are in the autumn!) should strike the lure, the possibility is that the whole of the lure and a portion of the leader is gathered into the capacious maw. If a line only without a leader is used, the coming of the fangs in contact with the line will cause it to fray from sawing back and forth during the fight. Hence a durable leader is almost a necessity.

Imperial Fuel Oil and Navigation



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